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of the Industry

## All Defense Day On Program For Show In January

**Top Men** In Government  
Agencies Expected To  
Speak At Exhibition

CHICAGO—An "all defense day" at the All-Industry Refrigeration and Air Conditioning Exhibition Jan. 12-15 at the Stevens hotel in Chicago, at which some of the highest ranking officials among the government Defense agencies will likely speak, was planned at a meeting last week of the executive committee of the Refrigeration Equipment Manufacturers Association, which is sponsoring the show. E. A. Vallee, vice president of Automatic Products Co. and president of Rema, explained to the committee that invitations have already been issued to some of the highest ranking individuals in the Defense activity. The various divisions of the Defense activity assured him on his recent visit to the capital that their top men were anxious to speak to industry groups such as will be gathered at the All-Industry Show.

Purpose of the "all defense day" will be to provide an opportunity for officials of such agencies as the OPM, OPA, Defense Contract Distribution Service, Army, Navy, etc. to speak to assembled groups from the industry and to explain their

**Do You Have an Early  
Model In Your Attic?**

CHICAGO—Have you a "pioneer" piece of mechanical refrigeration equipment in your place of business? Do you have or do you know the whereabouts of a compressor, coil, valve, special kind of cabinet, etc. that was the first model of its type, or which may have had some significant part in refrigeration history?

If you have information about such an item, the "Antequarium" committee of the All-Industry Refrigeration and Air Conditioning Exhibition would like to have you get in touch with them. The "Antequarium" will be a special exhibit at the January show displaying such historical items.

Members of the committee (to whom you should write) are F. J. Hood (chairman), Ansul Chemical Co., Marinette, Wis.; H. T. McDermott, national secretary, Refrigeration Service Engineers Society, 433 North Waller Ave., Chicago; and George F. Taubeneck, Editor, AIR CONDITIONING & REFRIGERATION NEWS.

thinking, plans, and desires as concerns the mechanical refrigeration industry.

Mr. Vallee thinks that certain important decisions concerning the refrigeration industry may be made around the first of the year, and that the "all defense day" program will afford those attending the All-Industry Show to get a first-hand explanation of the moves that will have been made.

The National Refrigeration Supply Jobbers Association, the Refrigeration Service Engineers Society, and other industry organizations who may be holding meetings during the show period will be asked to cooperate in the "all defense day" program. C. H. Benson, Imperial Brass Mfg. Co., chairman of the All-Industry Show Committee, reported that promotion to get maximum attendance at the show was now underway and would reach a peak during the middle of next month. Trade advertising, large broadsides to a complete industry mailing list, and special publicity means will be used

# Air Conditioning & REFRIGERATION



# NEWS

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## ASRE Will Turn To Defense N.Y.'s Not Only Problems At St. Louis Dec. 2-5 City With a 'Servicing Plan'

**Shearman, Needler To Speak; Clinics Planned  
On Substitute Materials, Army Specifications**

**OPA Requests Ceiling  
On Prices For Coils  
In Cooling, Heating**

WASHINGTON, D. C., Nov. 24—Restrictions on further increases in prices of refrigerating and heating coils and allied products are planned by the Office of Price Administration, and a meeting of 22 representative manufacturers and wholesalers was held today to discuss the matter. Leon Henderson, OPA Administrator, announced.

Affected by the proposed OPA ruling will be finned coils, water heaters, radiators and convectors, unit heaters, coolers and air conditioners, and heat exchangers.

While the OPM copper curtailment order is directly responsible for action by OPA to prevent further price increases in this field, the proposed limitation will cover a number of products not made of copper. This is considered necessary because such products either are competitive with similar items made of copper or brass, or are in the nature of substitutes. Hence, prices of all are subject to the same pressure for increases arising out of the copper limitation order.

### G-E Shifts Staff of Commercial Cooling Engineering Division

BLOOMFIELD, N. J.—Three changes in the engineering staff of General Electric's air conditioning and commercial refrigeration department have been announced by J. P. Rainbault, manager of the department.

H. D. Kelsey, engineer of the department here, has been called for the duration of the emergency to take duties in the supercharger engineering department, and has been replaced by D. W. McLenegan; (Concluded on Page 4, Column 2)

### Refrigerator Prices Still In Question

WASHINGTON, D. C.—The question of prices on mechanical refrigerators for the 1942 season is still undecided at the Office of Price Administration. Director Leon Henderson and other officials have conferred with some manufacturers regarding the new season's levels, but have still to meet with a number of other producers before any progress on prices can be made, it is reported.

## New Plan To Give Producers the Same 'A' Rating For All Needed Materials

WASHINGTON, D. C.—A simplification of the procedure under which manufacturers will get preference ratings for materials necessary for their defense and civilian production is expected to be announced some time this week by the OPM's Division of Priorities.

The new plan, which is tied-in with the change-over from priorities to allocations, it is reported will require a manufacturer to project his needs three months ahead. It is hoped to put the new method into effect by Jan. 1.

According to the new plan, a manufacturer of electrical equipment, for example, will fill out an entirely new type of form when requiring materials for his first quarter 1942 operations. The application will cover only the materials needed to fill defense contracts upon which the

plant is operating, and such civilian goods products as OPM has ruled essential.

Once the producer's needs have been listed and approved, it is understood, the government will grant him an "A" blanket preference rating which will be the same for all materials he needs. At present, a producer may have an A-10 rating for materials he needs to fill one contract, and an A-3 rating or higher to get materials for some other order. Confusion and red tape involved in getting the various preference orders would be eliminated under the new plan.

Of even greater value, in the opinion of defense heads, will be the fact that the new system will, for the first time, give the government accurate data on current materials (Concluded on Page 4, Column 1)

### 80 Servicemen 'Survey' Twin Cities Users For Priorities Petitions

ST. PAUL—To facilitate the task of obtaining signatures of commercial refrigeration users on petitions testifying to the essential nature of refrigeration, in accordance with the plan sponsored by the jobber-service man section of TECORD, the Twin Cities chapter of the Refrigeration Service Engineers Society zoned its municipalities into 40 areas and appointed a committee of 80 members to oversee the job.

A. M. Palen, president of the chapter, is in charge of this movement, which is designed to obtain improved priority ratings for the refrigeration industry by registering the joint sentiment of refrigeration users all over the country.

### Shearman a Bridegroom

JACKSONVILLE, Fla.—Charles W. Shearman, special adviser on refrigeration to OPM's division of purchases, is a recent bridegroom.

He was married here Nov. 1 to Betty Hartman, daughter of Mrs. Lorena B. Hartman of this city. They are now at home in Dorchester House, 2480 Sixteenth St., N.W., Washington, D. C.

Mr. Shearman is to be one of the speakers at the American Society of Refrigerating Engineers meeting in St. Louis next week.

fold attention. A. B. Schellenberg, K. M. Newcum, and M. F. Tokach will conduct a forum on substitute metals. A discussion of possible refrigerant substitutions led by B. H. Jennings will feature one of the luncheon sessions. Plastics as substitute materials will be the subject of an address by G. C. Gress of Monsanto Chemical Co.

A discussion of government specifications and standards, and recognition of the York plan of pooling the facilities of industrial plants for cooperative defense production also are included in the program.

Despite all this attention to the pressing and perplexing problem of national defense relationships, technical progress within the industry

(Concluded on Page 16, Column 1)

## Electrical Ass'n of Philadelphia Offers Course on Service

PHILADELPHIA—Marking a new venture in cooperative industry training work, a "lecture course" for commercial refrigeration service men has been inaugurated here by the Electrical Association of Philadelphia, in cooperation with the Philadelphia section of American Society of Refrigerating Engineers.

The course, which drew an attendance of about 100 service men at its opening session Nov. 10, consists of a series of 20 lectures covering (Concluded on Page 13, Column 2)

### Fairbanks-Morse Plans Convention Dec. 4-7

CHICAGO—Department managers of Fairbanks, Morse & Co.'s branches throughout the country will meet at factory headquarters here Dec. 4 through Dec. 7 to view new and improved air conditioning products and discuss sales problems and plans for 1942.

First two days will be spent at the factory studying new models, with the remaining two days to be devoted to sales problems.

Sales of Fairbanks-Morse air conditioning equipment have been excellent this year, aided partially by government business, according to J. W. Bostwick, manager of the air conditioning division. He also expects next year to be even better, provided sufficient raw materials can be obtained.

"During the present year the company has put huge refrigeration plants in a number of the larger camps, both for the army and navy," he said, "as well as a considerable number of air conditioning and refrigeration systems in new defense plants."

**New Orleans Program Now  
Operating; 'Bureau' is  
Proposed in Hartford**

By T. T. Quinn

WASHINGTON, D. C.—While New York City's much-discussed "Consolidated Edison Plan" for super-servicing of electrical appliances has been grabbing most of the headlines, two other centralized servicing programs—both of them offering better possibilities for the independent dealer—have been worked out by dealer associations in New Orleans, La., and Hartford, Conn., it was revealed at the recent conference of International Association of Electrical Leagues here.

In New Orleans, a "certified repair shop" plan has been in effect since September on small appliances, and is reportedly working out satisfactorily. A centralized "service bureau" has been proposed in Hartford, and is now being revised in response to dealer objections, after which, it is hoped, the idea will meet with general approval.

Although the aim of the three "servicing plans" appears to be the same—better servicing of appliances at minimum expense to users—the methods suggested for meeting these aims vary widely in other respects. The so-called "Edison Plan" envisions a central bureau to handle this work on a huge scale, with co-operating dealers earning commissions for work turned in.

Both the New Orleans plan and the Hartford proposal, on the other hand, aim at bringing the individual dealer up-front in the servicing picture, and in easing the utility company out of it. Under these programs, the dealer continues to "sell" his own service, keeping his contacts with customers, and making his own estimates as to repair costs.

The New Orleans plan, started Sept. 1 with 22 dealers cooperating, consists in the setting up, under league sponsorship, of "Certified Electrical Appliance Repair Shops." The plan applies to small appliances only, and is expected eventually to absorb much of the service work on this type of equipment formerly handled by the utility company.

Utility approval is required for a dealer to obtain "certified" rating, but outside of this no close supervision is maintained over dealer activities under the plan.

Only requirements are that the "certified" dealer must have a qualified service man on duty all day, must carry a representative stock of parts, or must know where such parts may be obtained if he doesn't happen to have them on hand at any particular time. It is suggested that the dealer give a 90-day guarantee on all service work performed, but here again the policy (Concluded on Page 16, Column 3)

## New Industry Taxes Boost Collections

WASHINGTON, D. C.—Excise tax collections on refrigeration and air conditioning equipment during October, the first to be reported under the new and broader tax schedule, totaled \$1,157,913.70, as compared with \$321,487.56 in the same month of 1940. The figures for 1940 covered only mechanical household refrigeration equipment.

Collections on radio sets, parts, and phonographs amounted to \$896,860 during October, as against \$703,304.20 in 1940.

## One Look & Prospects Go For Best Looking Refrigerator

**'Bargains' Are Quickly Sold By Sales Chief Who Handles His 3-Step Program Adroitly**

KANSAS CITY, Mo.—A classified advertisement, a couple of phone calls, one visit to the store—and another refrigerator sale.

That's a routine cycle for Albert Bell, sales manager of Mace-Ryer Co., local appliance dealership. For Mr. Bell, who personally handles practically all of the firm's refrigerator sales, corrals about 66% of these sales by means of cleverly worded classifieds in local papers.

One or more of these advertisements are run each day. Usually featuring such offers as "take over the balance on this repossessed unit" or "here's a box with slightly scratched finish at a big saving," these classifieds are deliberately worded in such a way as to catch the eye of the bargain-hunter type of prospect. Refrigerators advertised in this way are always used models or floor samples which are a little the worse for wear.

Telephone number of one of two different answering services is included in each advertisement. When a prospect calls this number he is told that the party to contact is not in at the moment, but will return the call later.

Name and phone number of the prospect and a complete record of the

call is then relayed to Mr. Bell, who immediately swings into action and calls the prospect.

Here is the first test of salesmanship, for Mr. Bell maintains that under his system of operation a man must be equally as good a salesman over the telephone as he is in face-to-face contacts.

During this telephone conversation Mr. Bell employs all his tact and persuasion to convince the prospect that he should come into the store to see the unit which was advertised.

This is his first job. Once this is successfully completed, the sale is well on the way.

When the prospect steps into the store Mr. Bell personally conducts him to what he terms "his own private sales room" in the basement of the building. This room boasts nothing fancy in the way of decoration or fixtures, and there are never more than a few refrigerators on the floor. It is simply a plain room where Mr. Bell can get his prospects away from the distractions and disturbances of floor traffic and where he can employ his own particular sales tactics to best advantage.

And here's the technique he uses. First he shows the prospect just

the model that was advertised. He makes sure, however, that when he leads the prospect up to the advertised box there is a newer unit in far better condition and with far more eye appeal right along side it. He deliberately sees to it that the contrast between the two refrigerators is striking.

But instead of trying to sell the prospect up, he lets the prospect do the job himself. For Mr. Bell has found that almost invariably when the prospect sees the two units side by side he will convince himself that he doesn't want the less attractive—and the less expensive—one. Often these little "self convincer" demonstrations which Mr. Bell stages result in the purchase of brand new merchandise.

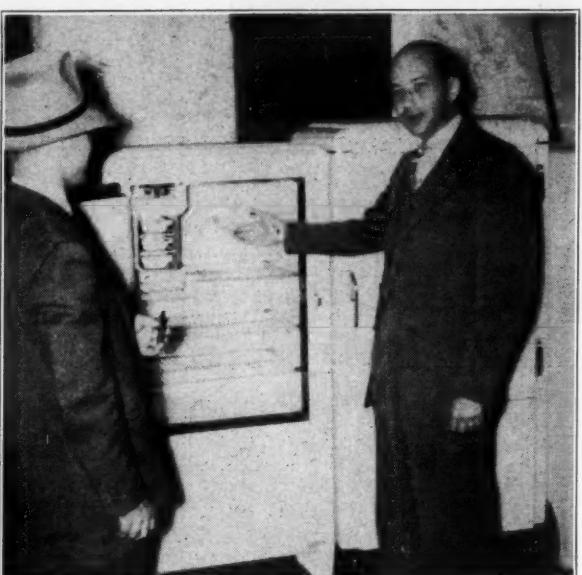
### FIRST FEW MINUTES

The first few minutes spent in the sales room are all-important, Mr. Bell explains, because the turning point in most sales occurs during that time. He feels that once he gets the prospect over that first "hump" of sales resistance, the rest of the sale is just like the downhill grade of a roller coaster.

The period of time between publication of the advertisement and completion of the sale is invariably short, Mr. Bell points out, because if people are going to respond to the advertisement at all they respond practically immediately.

Mr. Bell believes that the classified columns are the place to advertise, because of the individuality and pointed sales appeal that you can write into each advertisement. His theory is that display advertisements just say "I've got it too." And Mr. Bell speaks from a considerable background of experience, for he

## 'Do You Still Want To Buy It?'



Albert Bell (right), sales manager of Mace-Ryer Co., Kansas City, Mo., appliance dealership, shows a prospect some of the sales points of a refrigerator featured in one of Mr. Bell's classified advertisements. Scene of the action is Mr. Bell's "own private showroom" in the Mace-Ryer basement.

has been using classified advertising of this nature for 15 of the 17 years that he has been associated with the Mace-Ryer organization.

One advantage in deliberately soliciting business from bargain hunters, he explains, is that bargain hunters usually expect to pay cash. Consequently most of Mr. Bell's sales are made either on a cash or a 90-days basis.

Mr. Bell likes to deal with married couples, not just husbands or wives alone, for he has found that in most cases neither the husband or the wife will make the final decision alone.

The Mace-Ryer store is open evenings during the week, and Mr. Bell reports that more business is

obtained between the hours of 8 and 10 p.m. than during the day. This is because both husband and wife can come into the store together, he believes. The store also is open Sundays, and this has proved to be another excellent sales period—doubtless for much the same reason, according to Mr. Bell.

### Veterans Manage Appliances

COLUMBUS, Miss.—Cox Furniture Co.'s new store at College and Market Sts. features a major appliance department handling Kelvinator refrigerators. The department is managed by E. P. and H. A. Cox, veteran appliance salesmen.

## FAMOUS LIFE LINES



1 THIS SOUTH AMERICAN CLIPPER — life line of "friendly neighbor" relations with our sister republics to the South—is flying over historic El Morro fortress in Puerto Rico, while beneath her an ox cart, one of the most primitive forms of transportation, creaks on its way.

2 YOUR GAS STOVE'S supply lines, pilot tubes and flash tubes, life lines of dependable home cookery, are most often made from Bundyweld steel tubing—used today by a majority of manufacturers of gas cooking and heating appliances.

Acme

craft and marine motors, into radio aerials, into ground flares, parachute rip cord grips, and dozens of large and small parts for all kinds of defense equipment.

For defense manufacturers—who after all are but a cross-section of peace-time manufacturers—know from experience that Bundy tubing is the right tubing for strength, for ductility, for resistance to vibration fatigue.

If you use tubing in Bundy's sizes, you will want to know Bundy's story, whether you buy commercial lengths or want Bundy to take the tubing fabrication job right off your hands. Bundy Tubing Co., Detroit.

TODAY, Bundy tubing is accepted as standard among gas appliance manufacturers, just as it long has been in the automotive and refrigeration industries. And today, thousands upon thousands of these gas appliances are for defense housing projects and army camps.

This is but one of the ways in which more and more of Bundy's production goes into defense. Tanks, and jeeps, and half-tracks and trucks—all the dozens of types of motorized army equipment—use Bundy tubing for fuel lines, oil lines, hydraulic brake tubes, conduits.

Other Bundy tubing goes into primer lines for air-

## BUNDY TUBING



ENGINEERED TO

YOUR EXPECTATIONS

BUNDYWELD double-walled steel tubing, hydrogen-brazed, copper-coated inside and outside. From Capillary sizes up to and including  $\frac{1}{8}$ " O. D. This double-walled type is also available in steel, tin-coated on the outside, and in Monel.



BUNDY ELECTRIC WELD steel tubing. Single-walled—but welded—annealed. Also furnished tin-coated outside if desired. Available in sizes up to and including  $\frac{1}{8}$ " O. D.



BUNDY "TRIPLE-PURPOSE" MONEL tubing. Double-walled, rolled from two strips, joints opposite, welded into a solid wall. Available in all Monel, Monel inside—steel outside, and Monel outside—steel inside. Sizes up to and including  $\frac{1}{8}$ " O. D.

Tech

## Do You Know These Fundamentals of Appliance Advertising & Merchandising?

Just published by Business News Publishing Co. (publisher of Air Conditioning & Refrigeration News) is a new book "Appliance Advertising & Merchandising." (Price: \$2.00.) Written by R. E. Mangan, who for the last 10 years has been advertising manager and merchandising expert for one of the largest appliance distributing firms on the west coast, the book is full of down-to-earth information on making advertising and promotion methods pay out.

Parts of "Appliance Advertising & Merchandising"—such as that below—will be published in the News from time to time, to give readers the benefit of some of Mr. Mangan's stimulating thinking, but primarily to create a desire on the part of the subscriber to get and read this very helpful book.

BY R. E. MANGAN

(From Chapter 11 "Merchandising Activities")

### MAJOR PROMOTIONS AND COOKING SCHOOLS

Once or twice a year you can stir up your local market with a spectacular type of promotion that will win goodwill and feed you enough prospects to keep your men busy for a month or two. The big newspaper cooking school is this type of show. If you don't pay too much for participation, a good school is a good investment from which you'll benefit materially over a period of time.

A few pointers on participation in one of these schools might be helpful. Many newspapers have turned cooking schools into a racket. So don't get hooked. If you can get exclusive participation on appliances for 100 to 150 inches of advertising, or joint participation with several other appliance dealers for 50 to 75 inches of advertising, you can come out in the clear. But it would be foolish to put 20 or 25% of your entire year's advertising into a brief period just to get participation in the school, for it is primarily a publicity venture and you can't expect big direct returns.

An even better promotional stunt is a show of your own in a local theater or the club house of a local women's organization. This kind of a show calls upon your ingenuity and originality. It can be a whale of a success, or a flop. Putting the show over is up to you, and it requires work.

First, talk to your distributor and find out what consumer movie films are available. Most manufacturers and many utilities can supply good movies ranging from 10 or 12-minute one-reelers to first class, feature length pictures.

Next, try to build up the show with some other features—a short demonstration by the distributor or utility home economist, or any one of a dozen things that will round out the show, and at the same time help you to put across your sales story in a pleasing, inoffensive way.

Your third step is to get the sponsorship of one of your local organizations. This is important from an attendance standpoint. And it usually enables you to get an auditorium for little or no cost.

Work with your distributor on publicity for the show. And arrange for a door prize that will enable you to get the names of those who attend for follow up. The names won't be prospects, of course, but they'll be better suspects because of having attended your show. A good follow up will make the show a more profitable merchandising venture.

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## Michigan Engineers Air Views on New 'Blackout' Plants

DETROIT—Pros and cons of both the windowless or "blackout" type of industrial building and the type which is completely fenestrated were discussed last week at the November meeting of the Michigan chapter of the American Society of Heating & Ventilating Engineers.

Viewpoints of a manufacturer, a builder and a user were represented, respectively, by W. C. Randall of Detroit Steel Products Co., Herbert E. Ziel of Albert Kahn, Inc., and A. E. Jennings of Ford Motor Co.

Mr. Randall, an advocate of natural ventilation and explosion-relieving windows, questioned the advisability of building windowless "blackout" plants. He maintained that such plants suffer far more from a bomb hit than do properly fenestrated plants, due to the fact that they afford no means of relieving the sudden burst of air pressure created by the explosion.

Mr. Ziel pointed out that the new era of industrial expansion in which we live has created new problems of industrial architecture. As an example, he cited the fact that tear-down inspections of aircraft engines must take place in scrupulously clean surroundings, and that therefore windowless buildings really are best suited for this purpose. Many windowless plants, he stated, have been constructed in that manner more for specialized manufacturing reasons than for "blackout" purposes.

Mr. Jennings' remarks indicated that neither windowless or fenestrated buildings constituted the perfect answer to present-day industrial construction problems. Comparing maintenance costs of the two types of structures, he pointed out that upkeep of fenestrated buildings includes glass replacement, while upkeep of windowless plants includes adequate lighting and ventilation.

He added that extremely large plants present difficulties for either types of construction, as natural ventilation is difficult and the refrigeration demands for complete air conditioning are practically prohibitive.

## OPM Plans Reserves For Small Firms

BOSTON—Reserves of critical materials to help small business concerns facing suspension of operations due to priorities will be established soon by OPM, Priorities Director Donald M. Nelson told the New England Council here last week.

"We will make limited amounts of material available for a limited time," he said. "However, where it will take a comparatively large amount of material to keep a small number of men at work OPM will not be able to extend help. Neither will help be given for manufacture of a product which simply should not be produced in time of emergency."

The setting aside of a specific quantity of all materials as a pool from which small amounts might be "guaranteed" to small manufacturers who cannot convert their plants to defense work is frowned upon by the Washington defense organization, Mr. Nelson stated. Floyd Odum, head of the Contract Distribution Service recently made such a proposal.

## Next 3 Months Will Be Toughest, Odum Says

KANSAS CITY, Mo.—Priorities for defense production will hit small industry hardest in the next three months, but after that the industrial skies should be much brighter for the small operator, Floyd B. Odum, head of OPM's contract distribution division, declared as he arrived here for the recent Midwest defense clinic.

"If we can get by that period, and I believe we will, there should not be an idle plant in the country," he said.

"I believe that the closing of plants has been overstressed," Mr. Odum continued, "but I believe we will feel it in the next three months quite seriously."

## OPM Contract Division Adds 5 Field Offices

WASHINGTON, D. C.—Five new field offices, making a total of 62 in all, have been opened by the Contract Distribution Division of OPM to help manufacturers obtain defense work. The new offices are located as follows:

Chattanooga, Tenn., 909-910 James Bldg.; Fall River, Mass., 27 S. Main St.; Lancaster, Pa., 655 Woolworth Bldg.; Scranton, Pa., Room 717, First National Bank Bldg.; Wilkes-Barre, Pa., 528 Miners National Bank Bldg.

Additional offices will be set up in other industrial centers as rapidly as possible, announced Floyd B. Odum, director of the division.

Purpose of the field offices is to assist qualified manufacturers, particularly small firms and those threatened with curtailment or shutdown because of materials shortages, in obtaining defense contracts or subcontracts.

## Frigidaire Consolidates 3 Offices In Pittsburgh

PITTSBURGH—The three local offices of Frigidaire here will be consolidated in November in new quarters at 5700 Baum Blvd. P. K. Abry, district manager, will have charge.

New quarters, occupying two floors totaling 20,000 sq. ft., will have all modern facilities: air conditioning throughout, complete refrigeration service department in same building, and dealer meeting room.

## Steel Buyers Warned To File Form PD-73

WASHINGTON, D. C.—Warning has been issued by the Iron and Steel branch of OPM that purchasers of steel face delay in receiving shipments if they fail to file form PD-73 with producers.

Under steel order M-21, it is now unlawful for producers to make shipments if they do not have a copy of PD-73 covering the order. A number of shipments now are being held up, the OPM branch revealed, pending receipt of these forms by the producers.

Form PD-73 provides for complete information by the customer as to classification of steel ordered, its ultimate use, completion date of contract for which the material is required, and other pertinent data.

## Westinghouse Increases Subcontract Letting

EAST PITTSBURGH, Pa.—With its own 26 manufacturing divisions working on national defense orders totaling more than \$300,000,000, Westinghouse Electric & Mfg. Co. has increased its "farming out" of defense subcontracts by 20% since April, according to T. I. Phillips, assistant to the president.

At the present time defense subcontracts are being let by Westinghouse at a rate estimated to provide 6,600,600 man-hours of work a year for the employees of more than 300 small manufacturing companies.

## Getting the 'Range'

## 22% of N.Y. Workers Face Loss of Jobs

NEW YORK CITY—Unless priorities regulations are changed to provide materials now unobtainable or difficult to get, 20% of New York City's 500,000 wage earners will lose their jobs, believes the Commerce & Industrial Association of New York, which just completed a survey of 142 manufacturers representing 12 industries.

A total of 117 manufacturers are already having difficulty in getting sufficient quantities of essential supplies or equipment. Ninety-three reported lack of essential metal parts and 85 needed more metals. Industrial chemicals, paper and paperboard, textile yarns, threads, cloth, rubber, glass, leather, and wood are also running short, it was said.

Within the next three months 91 firms will have to curtail if priorities regulations are not changed. As a result, 3,600 workers, representing 20% of those employed by the reporting firms, will lose their jobs.

Losses of \$1,375,000 in civilian orders and \$250,000 in defense sales will occur within three months if priorities aren't changed, 22 plants estimated. Thirty-two others thought their sales would be cut from 10 to 75% and 37 said they would lose but couldn't make any estimates.

The survey covered nine food firms, eight textile, 13 clothing, 13 leather goods, three wood products, 14 paper products, seven printing, nine chemicals, five rubber and plastics, 15 machinery, 28 other metal products, and 18 miscellaneous manufacturers.



Used singly or hooked up in batteries as shown here, the new sea-going Electromaster electric range, model 39-1, cooks food for crews of famed Sea Otters, marine rescue boats, and Geodetic Survey craft.

## U. S. Makes Grants For 2 Plant Expansions

WASHINGTON, D. C.—Defense Plant Corp. has executed a lease agreement with Westinghouse Electric & Mfg. Co. for the construction of plants at Bloomfield, N. J., and Fairmont, W. Va., for the manufacture of radio equipment. The plants will cost \$1,408,768.

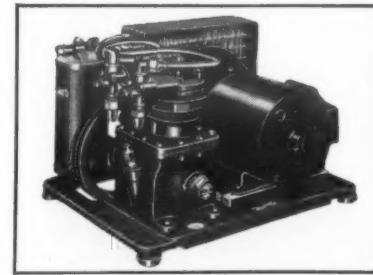
In an increase in an agreement made previously, Bridgeport Brass Co. was granted \$12,478,294 for additional facilities at its Indianapolis plant manufacturing ordnance equipment. Original agreement had called for \$12,320,000.



## WE'RE IN THIS together...

The fast developing changes, today, have more than doubled individual responsibilities. ★★ We, in the Refrigeration and Food Industry, must do everything within our power to provide the millions of defense and non-defense workers with nutritious food so that they can do their important jobs well and efficiently. Every means available to the refrigeration industry must be called upon to see that there is no let-down in the refrigeration service that is so necessary in keeping the American worker sup-

plied with nutritious food all year 'round. ★★ As manufacturers of condensing units, we are doing everything within our power to keep the industry supplied with efficient, dependable refrigeration equipment which is so vital to the preservation of foods. ★★ We have enlarged our plant to further increase production capacity of condensing units. Yet all of our efforts would be in vain without the unstinted cooperative spirit of our employees . . . the most priceless asset of American endeavor.



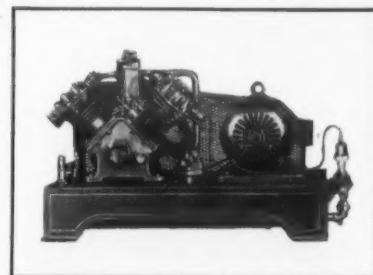
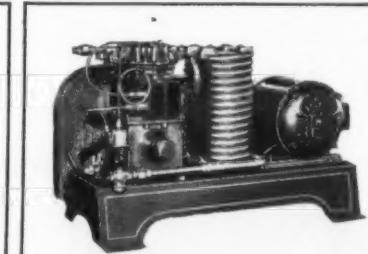
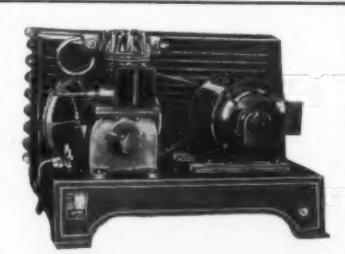
BRUNNER MODEL A-38 . . .  $\frac{1}{3}$  h.p. air-cooled close coupled condensing unit, ideal for use with cabinets and boxes where space available for unit is limited. It is also well adapted for large domestic refrigerators and self-contained cabinets within its capacity.

BRUNNER MODEL A-100 . . . 1 h.p. air-cooled condensing unit for average heavy-duty commercial applications. It will handle an 8' x 6' x 10' cooler in addition to a 16' display case. Also recommended for beer coolers for pre-cooling barrels of beer.

## BRUNNER

MANUFACTURING CO., UTICA, N. Y., U. S. A.

Air Compressors • Refrigerating Equipment



BRUNNER MODEL W-500 . . . 5 h.p., 4 cylinder water-cooled condensing unit for heavy duty commercial and air conditioning applications where high efficiency, low power consumption and quiet operation are of prime importance.

BRUNNER MODEL W-200 . . . 2 h.p. water-cooled condensing unit especially adaptable for large soda fountains and large walk-in coolers or to handle a battery of market display cases. An ideal unit for medium size air conditioning installations.

MAKE YOURSELF AT HOME IN OUR BOOTHS 114-116 AT THE ALL-INDUSTRY SHOW, JANUARY 12th-15th.

## Predicted Priorities Plan Calls For Advance Data On Materials Needed

(Concluded from Page 1, Column 3) needs, plus information on inventories held by producers in all types of industries. Once the requirements, projected over three months, are known, officials can compare them with available supplies, and come up with a far more intelligent idea of the supply and demand problem than is possible under present conditions.

Preliminary forms for the new application blanks have already been drawn up, and are labeled "application for priority assistance to obtain deliveries of materials shown below."

In eight columns, the applicant is asked to supply information concerning the amounts of materials he used in the preceding quarter, the amount he received in that period, what his inventory was at the close of the quarter, and the amounts he expects to use in the ensuing three months. Last column is for use by the priorities division in listing the rating to which it believes the applicant is entitled.

In a "certification" at the bottom of the page, the company official is required to sign a statement asserting, among other things, that the estimates of requirements for materials and supplies "have been arrived at from the books and records of the applicant, and have been determined in a reasonable and prudent manner." The statement also asserts that the materials and supplies requested are to be used only for manufacture of the products listed.

The priorities division's "authorization," opposite the certification, states: "The Director of Priorities of the Office of Production Management hereby assigns the preference rating shown below to deliveries in the current period of the quantities of materials, supplies, or parts shown in column 7 above, except as they may be modified in column 8, and the applicant is authorized to advise his supplier(s) by the designated endorsement."

Prominent display is given the warning that "Section 35 (a) of the United States Criminal Code, 18 U.S.C.A. 80, makes it a criminal offense to make a false statement or representation to any department or agency of the United States as to any matter within its jurisdiction."

The new application form is in sharp contrast with the present OPM applications for preference ratings, which ask merely what type of material is desired, and the date upon which deliveries should be made.

## G-E Shifts Staff of Commercial Cooling Engineering Division

(Concluded from Page 1, Column 2) and F. T. Grothouse has been named engineer in charge of the department's Winter St. plant in Fort Wayne, Ind.

Mr. Kelsey's duties take him first to the G-E Lynn River Works plant, and later to the new G-E supercharger plant in Fort Wayne. A native of Syracuse, N. Y., Mr. Kelsey was graduated from Syracuse Uni-

versity and has been with G-E since 1920. In 1922 he joined the turbine engineering department in Schenectady, and in 1929 went to Lynn, first with the compressor engineering department and later with the turbine engineering department and mechanical drive section. He joined the air conditioning engineering department first in Schenectady in December 1933, and later went to Bloomfield.

Mr. Grothouse joined General Electric in 1921 at Fort Wayne and was engaged in special machine and factory equipment design there until 1928 when he was transferred to the electric refrigeration engineering department of Fort Wayne's Winter St. plant. He was engaged in the development of the larger sizes of household refrigerating machines, then made at Fort Wayne, and also in the development of commercial refrigerating equipment. In 1936 he was placed in charge of the refrigerant condensing unit design section of the refrigeration engineering department in Fort Wayne. In March, 1940, he became engineer of the production engineering section of the Winter St. plant.

Mr. McLenegan joined General Electric in Schenectady in June, 1922. For two years he was assigned to the research laboratory on mechanical problems. From 1923 to 1931 he worked in the industrial engineering department on motor and control application and standardization, and in 1931-32 assisted in the advance work leading to the formation of the air conditioning department. He joined this department in 1932, serving consecutively in the commercial, commercial engineering, and engineering design sections.

## If You Can Provide a Good Story About Your Industry, Any Newspaper, No Matter How Big, May Publish It

'Chicago Daily News' Gives a Full Column To Refrigeration - TECORD: Here Is a Model Article For Your Newspaper

engineers, Chicago, is executive secretary.

### PRODUCTS NOT LUXURIES

"Mr. McClure, in discussing the industry and the association today, said that mechanical refrigeration and air conditioning have quite generally been considered 'luxuries,' whereas they are, in fact, vital necessities in many lines of business and in the homes of a great part of the people. He cited in this connection the following interests in which commercial refrigeration or air conditioning is a necessity:

"Meat packers, meat markets, and other food stores, refrigerated railroad cars, trucks and ships, in which perishable foodstuffs are transported; dairies, food processing plants, fur storage places, public buildings, hotels, theaters, etc.

"These uses are not uses of luxury," said Mr. McClure. "They are real necessities and represent vital elements of economy, prevention of waste, and the distribution of essential foods and services for the people of the country.

### AIRPLANE RIVETS FROZEN

"There is another division of this industry, however, that has even stronger claims to generous priorities treatment and that is industrial refrigeration. This is a subject not commonly understood by persons not connected with some of the industries that are chiefly concerned.

"For instance, the airplane manufacturer must have low temperatures in his assembly plant because of the sharp changes of temperature to which his product is subjected when in flight. Contraction and expansion of metal under extremes of cold and heat is well known. Rivets in airplane construction, for instance, are 'frozen' to prevent their becoming loose after the ship has been traveling at a high altitude and then returns to the warmth of a low altitude."

### CITES VOLUNTARY OUTPUT CUT

"Mr. McClure stated that the association is presenting a program for a voluntary curtailment of 35 to 50% in the total production of the air conditioning and refrigeration industry by eliminating nonessential civilian uses. Already the industry is being seriously hampered, he said, by the manufacturers' inability to obtain necessary materials.

"The AC&R industry as it is commonly known," said Mr. McClure, "is now doing an average of 39.9% defense work using its normal line of products. This includes industrial air conditioning for production of munitions, vital chemicals, synthetic materials, control of atmospheric conditions in producing precision instruments, engines, etc., refrigeration for naval and other ships, cantonments, etc."

## OPA Opens Regional Office In Chicago

WASHINGTON, D. C.—John C. Weigel has been named director of a regional office being opened in Chicago by the Office of Price Administration.

Mr. Weigel was formerly on the executive staff of Sears, Roebuck & Co.

For: TRUCKS, LOCKERS, COOLERS, COUNTERS AND CABINET CONVERSIONS, USE:

**KOLD-HOLD PLATES**  
KOLD-HOLD MFG. CO.  
LANSING, MICH., U.S.A.

OF A SERIES OF ADVERTISEMENTS  
No. 9  
DESIGNED TO HELP YOU SELL  
REFRIGERATORS FASTER

# KNOW YOUR HEALTH NEWS!

## Use newspaper clippings TO HELP YOU SELL REFRIGERATORS

EVERY DAY the news stories stress our vital need for food preservation and food conservation. Why not clip out these stories and use them in your sales talk?

Show your prospects how America needs modern refrigeration today more than ever. Sell them on its role in making a healthy family... for a healthy nation. And you give them another good reason to buy your refrigerator.

This is a good time to mention DULUX, too. Its gleaming white finish can symbolize your talk on health. It's not only easy to clean, but keeps its whiteness. It resists chipping, cracking and food or grease stains.

Listen to "Cavalcade of America" every Monday evening over coast-to-coast NBC Red network.

And the fact that DULUX is made by Du Pont is another point to make. America expects better things through Du Pont chemistry. That's why a majority of refrigerators have a DULUX Finish.

Another Aid to Sales...Send for Free Book!  
► This book helps many salesmen to quicker, bigger sales! Write for your copy of "How DULUX Has Helped in the Sale of More Than 9,000,000 Refrigerators." Du Pont, Room 715 6N, Du Pont Building, Wilmington, Delaware.



**DULUX**

**DU PONT**

THE MODERN FINISH FOR MODERN LIVING...It saves work

## Executive Sales Engineers Are Needed For Service in OPA, Henderson Says

WASHINGTON, D. C.—Executive sales engineers with extensive experience in the industrial machinery field, including refrigeration, are urgently needed for important duties in the Office of Price Administration, Leon Henderson, Administrator, announced last week.

A number of positions in the Industrial and Agricultural Machinery Section are open to professional men with technical training and practical engineering background in the manufacture of pumps, compressors, blowers, elevators, conveyors, cranes, measuring instruments, mechanical stokers, boilers, valves, refrigeration and air conditioning equipment, construction machinery, fabricating machinery, farm machinery, and electrical generating equipment.

Familiarity with the problems and methods of cost analysis, estimates, and production is highly desirable.

The work of OPA is an essential part of the national defense program,

Mr. Henderson said, and engineers joining its staff will be serving their country importantly.

Salaries range from \$3,800 to \$5,600 a year. There will be no written examinations. Applicants will be rated on experience and education. As time is short, engineers interested are asked to send in immediately a typewritten resume of their experience, confined to a page if possible. Other information required is name, address, height, weights, date of birth, marital status, and education.

A record of past employment, beginning with the most recent position and working back, must be included. Photographs, if available, also are desired. Applicants are cautioned not to send original documents, since nothing will be returned.

Material should be addressed to Joel Dean, Office of Price Administration, Room 238, Temporary Building "D," Independence Ave. and Sixth St., S. W., Washington, D. C.

## Urge Finance Companies To Campaign Against Tightening Terms

CHICAGO—An organized campaign by finance companies against any increase in instalment sales restrictions was urged by George W. Omacht, general counsel, and E. M. Morris, president, Associates Investment Co., speaking at the eighth annual business convention of American Finance Conference here recently.

The working man and the small business man will be most affected if, as the delegates fear, the Federal Reserve Board should require a 50% down payment and paper of not more than 10 months maturity as its next step in its restrictive program, Mr. Omacht declared. Pressure should be exerted on congressmen by finance company officials to prevent further curbs, he pointed out.

Speaking from the floor, Mr. Morris pointed out that while the

creation of a reservoir of buying power for post-defense use might be sound, there was a danger that the entire sales financing setup would be forced out of business in the meantime.

## Shoemaker to Consult on Warehousing With U. S.

WASHINGTON, D. C.—J. Raymond Shoemaker, president of the Hygeia Refrigerating Co., Elmira, N. Y., has been named consultant on refrigerated warehousing in the Transportation Division of the Office for Emergency Management. He will handle problems relating to the handling and storage of perishable food products, including lend-lease commodities.

Mr. Shoemaker is past president of the Association of Refrigerated Warehouses and of the New York State Association of Refrigerated Warehouses, and was a member of the industry's code authority under the National Recovery Administration.

## Askew Heads Jobber Resolution Group

CHICAGO—Peter H. Askew of Refrigeration Supplies Distributors, Los Angeles jobbing firm, has agreed to serve as chairman of the resolutions committee of the National Refrigeration Supply Jobbers Association. He will be assisted by H. R. McCombs of McCombs Refrigeration Supply Co., Inc., Denver.

Members or non-members of N.R.S.J.A. who desire to submit matters to the association's resolutions committee are requested to do so as far in advance of the annual convention as possible.

### Named Chicago Distributor

CHICAGO—Wakem & Whipple, Inc. has been appointed distributor in the Chicago area for Gibson refrigerators and ranges, replacing L. C. Wiswell Co. which formerly distributed these products here.

## 'Fill-in' Lines Added To Aid Dealers

KANSAS CITY, Mo.—With the conviction that dealers in major appliances will find huge gaps in the volume structure during the next year and probably afterwards, Jenkins Music Co., appliance distributor here, has adopted two new lines of "fill-in" merchandise which dealers can use profitably to make up lack of appliance sales—lamps and electric sewing machines. Both were introduced in October, when Jenkins invited all Kansas City dealers to visit the showroom, make comments, and ask questions about setting up this merchandise to replace foreshortened appliance deliveries.

Kenneth Gillespie, manager of the department, reports that Kansas City housewives have steadily evinced a demand for lower-priced sewing machines and better lighting in homes, both of which represent a logical market for the appliance dealer, whose business is primarily in the home field to begin with. The company is distributing table and floor lamps for the home, incandescent and fluorescent models, and a complete line of fluorescent commercial lighting equipment.

The sewing machine department (although this product, too, may soon come under government priorities on metal) is the first to be operated in Kansas City by any means other than manufacturers' own stores.

## Dallas 9-Months Sales Beat '40, But Sept. Sales Fall Off

DALLAS, Tex.—Household refrigerator sales reported by dealers in the territory of Dallas Power & Light Co. during the first nine months of the year totaled 11,829 units, a decided increase over the 9,164 unit sales reported for the same period of 1940.

Sales for September alone, however, dropped off from 709 units last year to 554 units this year.

A tabulated comparison of unit sales of major appliances in the Dallas area this year, compared with sales for the corresponding period of 1940, follows:

Appliance Household	Sept. 1941	Sept. 1940	9 Mos. 1941	9 Mos. 1940
Refrigerators	554	709	11,829	9,164
Ranges	5	7	53	30
Water Heaters	2	8	8	8
Radios	2,244	2,220	19,331	16,517
Washers	340	349	3,815	2,818
Ironers	35	23	238	160
Vacuum Cleaners	531	780	5,728	4,993
Dishwashers & Disposals	2	7	29	24
Air Conditioning Units	2	1	39	54
Air Conditioning Systems	1	3	7	10
Commercial Refrigerators	32	38	223	209
Water & Beverage Coolers	54	24	411	159
Low Temperature Cabinets	7	38	55	90
Air Conditioning Units	18	10	122	54
Air Conditioning Systems	3	3	28	19

## Appliance Line Added By Lumber Co. to Satisfy Demands For Kitchens

BRIDGEPORT, Conn.—"Because of many requests from our customers who wanted us to make complete kitchen installations," the Fairfield Lumber & Supply Co. here has opened an electrical appliance department, explains Benjamin E. Plotkin, president.

To stimulate interest in appliances, especially ranges, the firm will soon conduct a Hotpoint cooking school in the Community theater with Miss Ila Manchester, home economist, in charge.

An electric range, mixer, percolator, coffee maker, sandwich grill, toaster, automatic iron, and radio will be offered as prizes. A movie, "Blame It on Love," will also be shown.

Fairfield Lumber & Supply is the second large lumber company in this district to open an appliance department.

## Cooking 'Classes' Pull Genuine Prospects

MILWAUKEE—Rather than stage loosely operated "cooking schools" which draw too many women interested solely in give-away prizes, the Electric Co., appliance dealership at 231 W. Michigan St. here, sponsored a series of classes Sept. 22 to Nov. 10.

Offered was a course of six lessons on practical food preparation through the use of modern kitchen appliances, which the housewife had to attend regularly or be dropped. Both gas and electrical appliances were utilized to demonstrate meat, vegetable, pastry, and dessert preparation, with a store economist in charge.

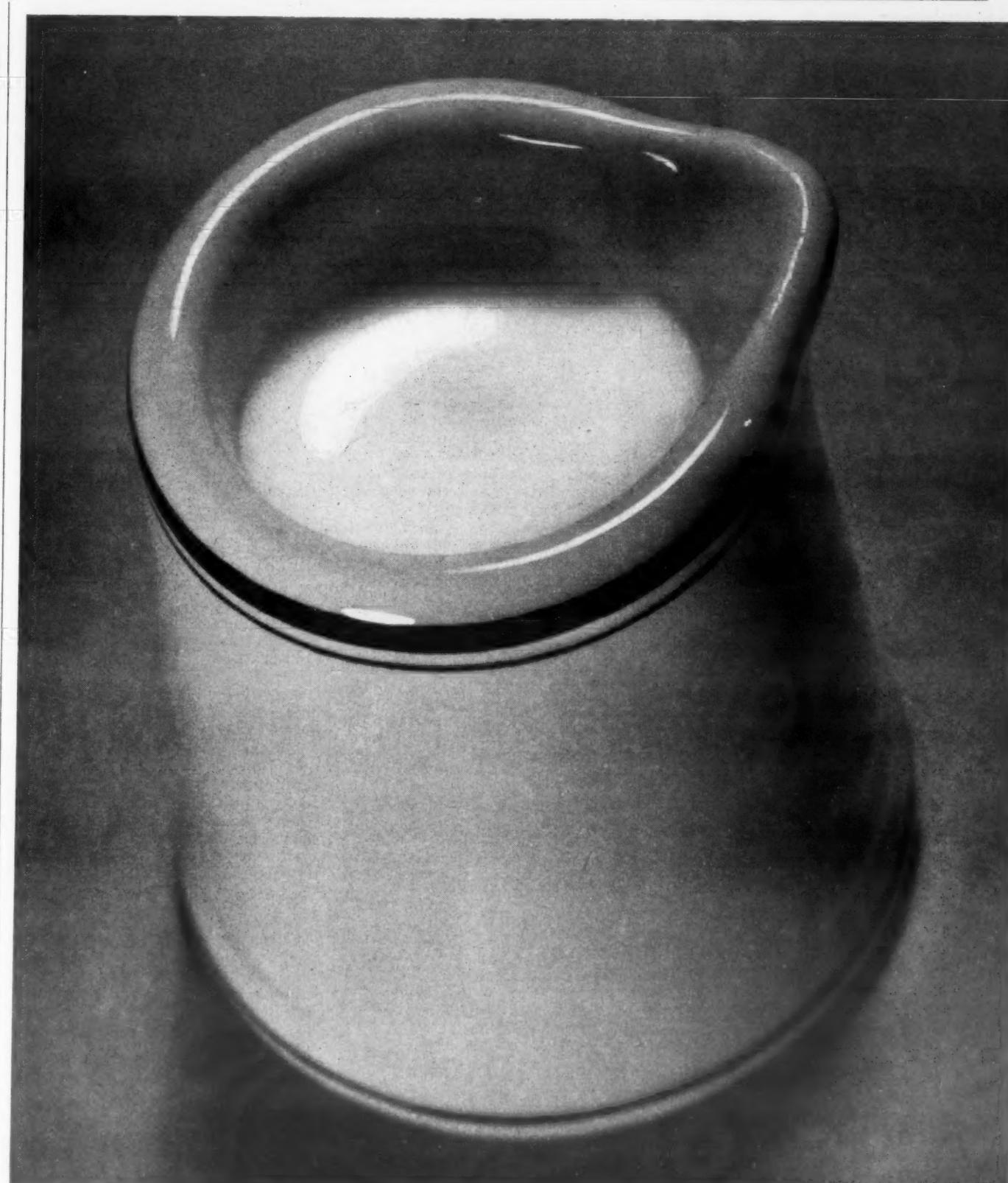
Results have been outstanding, not only in the sale of ranges and refrigerators, but small electrical appliances, which the store believes will be increasingly important when major appliance deliveries fall off because of priorities.

## Kane Named Distributor For Stewart-Warner

COLUMBUS, Ohio—Kane Co. has been appointed distributor for Stewart-Warner refrigerators and appliances in 19 central and southern Ohio counties. Headquarters of the company are in Cleveland, but divisional offices are being opened at 96 West Maple St. here. E. S. Klosterman has been placed in charge of this part of the territory.

## 25 Refrigerators Sold To Apartment House

ALBERT LEA, Minn.—Twenty-five AS-6-41 Westinghouse refrigerators were sold recently to L. R. Hellie for installation in the 25 apartments of the apartment building he operates here. C. G. Hinckley of the Interstate Power Co., made the sale.



CREAM. To make sure that your coffee will not go black,

unless you want it that way, America produces 50,000,000,000 quarts of milk each year. An A-1 essential to the health of the nation, this most nearly perfect food depends on refrigeration twenty-four hours a day. Mills Condensing Units do their full share in protecting the cream and milk supply in dairies and food stores, quietly reiterating the fact that food defense is national defense. MILLS NOVELTY COMPANY, CHICAGO

## Chicago Oct. Sales Set New Record

CHICAGO—For the fourth consecutive month sales of central system air conditioning plants here have set a new record, with 20 contracts totaling 363 hp. being let in October, according to Commonwealth Edison Co. In October, 1940, 12 systems totaling 156 hp. were installed.

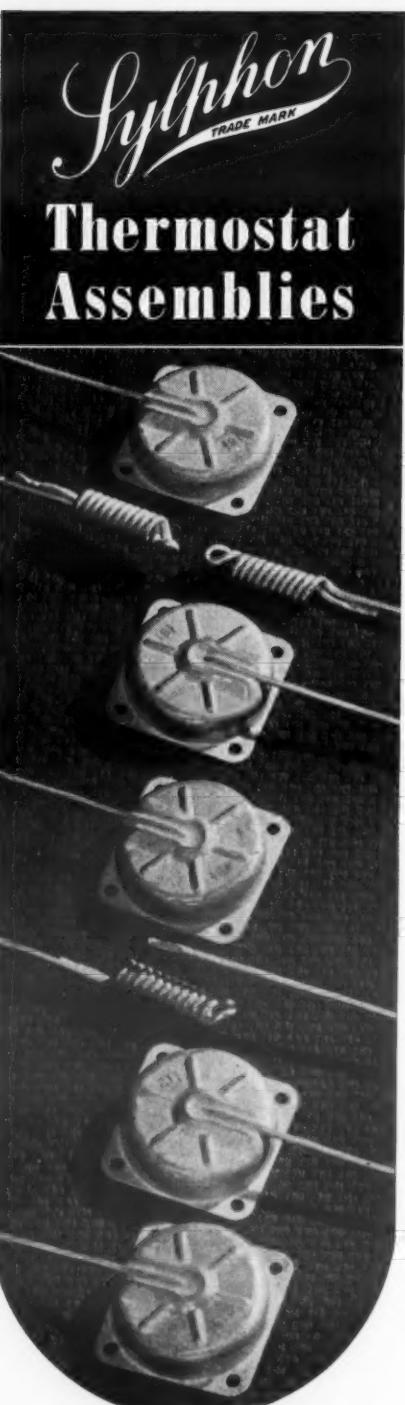
Room cooler sales in the same period nearly tripled those of the same month last year, 16 being sold in October, compared with six last year.

Central systems sold in October were divided as follows:

Offices	4
Warehouses	2
Factories	2
Restaurants	2
Candy stores	2
Shoe stores	2
Drug store	1
Miscellaneous	1
Theater	1
Bowling alley	1
Printing plant	1
Residence	1
Total	20

## Union Air Conditioning Co. Formed In Baltimore

BALTIMORE—Union Air Conditioning Co., Inc., 2033 N. Charles St. here, has been formally incorporated by Leo A. Rudolph, Paul Rothman, and Hoyt Haddock with a capital of \$10,004. It will specialize in air conditioning for small commercial and office buildings.



A Little Detail of Mighty Importance to Customer Satisfaction

THE FULTON SYLPHON CO.  
KNOXVILLE, TENN.

## Chicks Thrive In Cooled Brooder

TARPON SPRINGS, Fla.—When Clare S. Bush, operator of a chicken farm here, went broke after losing 7,000 chicks in a week because of an epidemic caused by insects and the summer heat, he borrowed enough money to build an insulated brooder and install a 5-ton air conditioner. Chicks have since thrived on air conditioning.

The new brooder house measures 40 by 85 feet. Temperature is maintained at between 72° and 75° F. by the conditioner which provides a change of air every 20 minutes.

After building the new brooder, Mr. Bush bought some baby chicks last December and placed them in the air conditioned space two hours after they left the incubator. His losses were few. He now carries about 11,000 chickens at all times, selling 1,200 a week, 500 weekly to one firm. Fluorescent lighting keeps the chicks scratching and growing even at night.

## Maintenance Men To Be Guests of Western N.Y. Air Conditioning Group

BUFFALO—The Air Conditioning Council of Western New York is planning to hold a big invitation meeting in Buffalo late in November, to which more than 500 maintenance men of industrial firms and anyone connected with the air conditioning business will be invited.

Walter P. Davis, executive secretary of the council, said this meeting will be of an educational nature, and will be the first of four to be held during the year. It will be much broader in scope than the council's usual membership meetings.

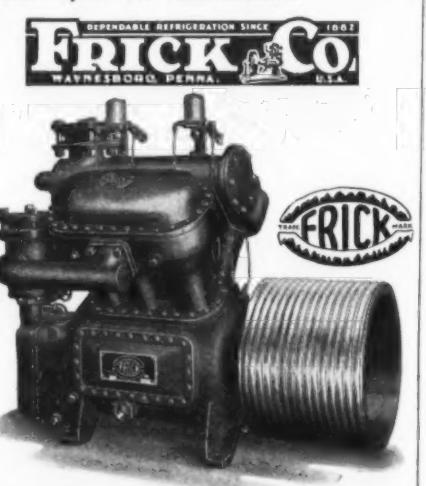
Mr. Davis pointed out that most members of the air conditioning trade in the western New York area now are busy on defense contracts, and have little time for regular monthly council meetings. However, he believes there is a need for a few large meetings which will bring all interests in the air conditioning business together on a common ground.

### Goldberg Plans 5th Party

CHICAGO—Herman Goldberg, manufacturers representative here, will hold his fifth annual Christmas party Dec. 11 in the North Ballroom of the Stevens hotel.

*Smoother Running with Eclipse Refrigerating Machines*

Because of automatic unloaders, capacity controls, Flexo-Seals, force-feed lubrication from submerged oil pump, safety heads, and balanced operation—among other features. Three sizes: 3, 4, and 6 cylinders. Capacities up to 60 tons. Write for Bul. 100-B. Some good territories still open for distributors.



## Mortuary Handles Peak Cooling Load With Small Condensing Unit and Accumulator

### 2-Hp. Unit Can Supply 20 Tons Needed For Funeral Services

ST. PAUL—By using an accumulator which permits a small 2-hp. compressor to supply 20 tons of cooling for short periods, the F. W. Johnston Mortuary here saved 40% on the installation of a year-around air conditioning system. Operating costs are likewise lower.

The load on the air conditioning system in a mortuary varies considerably, for during funeral services many people are assembled in the chapel. An accumulator system allows a small unit to build up sufficient cooling effect for the chapel, and also provides cooling for other parts of the mortuary.

#### 2 ZONES IN SYSTEM

In the Johnston mortuary there are two zones, one for each floor. One zone includes three chapels and slumber rooms, family room, pall-bearer's room, foyer, and waiting room. Casket display room, arrangement room, offices, rest rooms, operating room, and men's quarters comprise the second zone.

Equipment for the year-around system, which was planned by the engineering departments of Conditioned-Air Equipment Co., General Electric's Twin City distributor, and McQuay, Inc., includes a G-E "Freon" compressor, McQuay conditioning equipment, including an "Icy-Flo Accumulator," G-E oil-fired hot water boiler, and Minneapolis-Honeywell heating-cooling thermostats and winter-summer control switches.

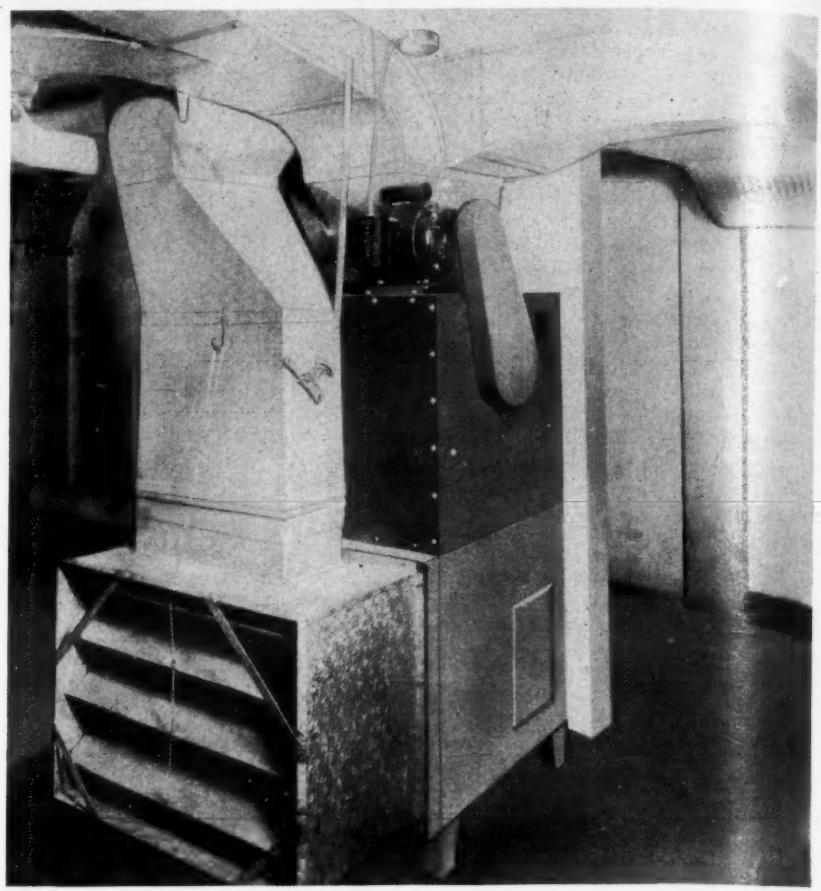
#### OPERATION IN SUMMER

In summer operation the cooling thermostat initiates the flow of cold water from the accumulator through the cooling coils of the conditioners by means of motor-driven pumps. Air circulating fans deliver the cooled, filtered, and dehumidified air through ducts to rooms to be conditioned. Free return of circulated air through arched doorways, halls, and louvered doors simplifies the duct system. Open stairways serve as air pressure equalizers.

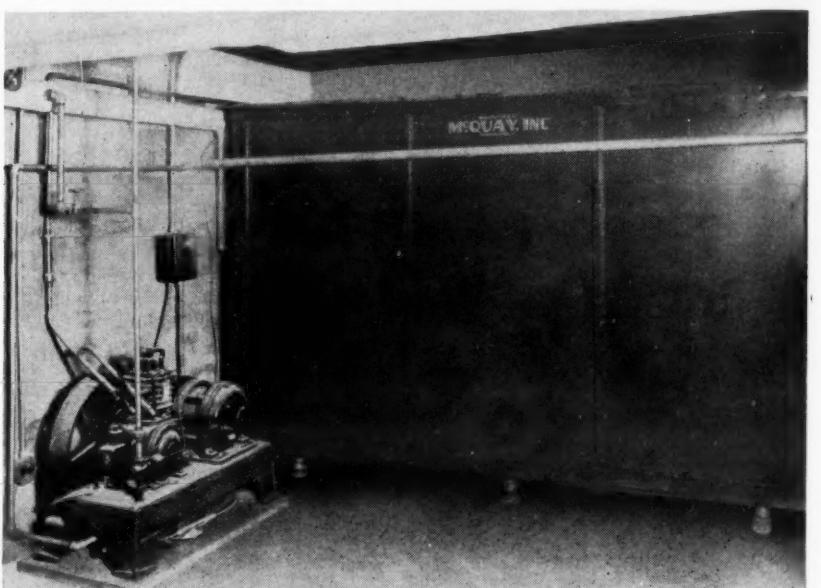
As the inside temperature rises above 80° F., or any other predetermined temperature, or the cooling load steps up due to occupancy, the refrigerating effect from the accumulator is made available to the air moving through the conditioners.

#### SYSTEM IS FLEXIBLE

The air conditioning system is flexible, permitting it to cope with the flexibility of the mortuary. For example, the two large chapels in the Johnston mortuary can be made into one to accommodate a large funeral. Likewise, the third chapel and pallbearers' room can be combined into a slumber room set apart from the other two chapels.



This conditioner supplies one zone in the two zone air conditioning system serving the F. W. Johnston Mortuary in St. Paul. A portion of the ducts which convey conditioned air to the chapels and other first floor spaces, the connections between the conditioner and fresh air intake are shown.



At left is the small compressor which provides cooling for the accumulator in the background. Insulated piping carries cold water from the accumulator to the conditioners and returns the warmer water.

It is possible with this system to maintain satisfactory air conditions in the mortuary when outside conditions do not require either heating or cooling, it is claimed. Fan operation is usually concurrent with operation of the pumps circulating the cooling or heating water to the conditioners, but the fans can be operated independent of the pumps if desired.

Contributing to the economy of this type of installation is the fact that smaller quantities of refrigerant

and smaller piping and insulation are required for this system than for a conventional system. Chief saving is the difference in cost between a conventional type large enough to meet peak load conditions and the combined accumulator-compressor-conditioner installation.

### Pittsburgh Distributor Displays at Auto Show

PITTSBURGH—Buddee Co., Chrysler Airtemp distributor here, displayed several self-contained air conditioning units at Pittsburgh's Auto Show held in the Hunt Armory recently. Buddee Co. displayed its units in a space 23 x 10 feet alongside Chrysler's automotive display.

**The Machine For Your Next Job...**  
If it's a refrigeration job...no matter how big or how small...we can supply Lipman equipment to fit the specifications. Let us work with you.

**GENERAL REFRIGERATION DIVISION**  
Yates-American Machine Co.  
Dept. AC-3, Beloit, Wis.



## SQUARE D IN REFRIGERATION

**DO IT ALL WITH SQUARE D**

SWITCH PROTECT REGULATE

SQUARE D COMPANY • REGULATOR DIVISION • DETROIT

**Do a Sales Job\***

## Here Are Some Reasons Why 1942 Will Be 'Buyer's Market'

### Higher Taxes and Living Costs Will Reduce Consumer Purchasing Power, Hirose Warns

WASHINGTON, D. C.—In predicting that next year will be a "buyer's market" as far as the electrical appliance and other consumer's durable goods industries are concerned, Arthur P. Hirose, director of market research and promotion for McCall Corp., told the recent conference of the International Association of Electrical Leagues that "we are only just now entering a period of economic readjustment far greater than that ever experienced by people in this country."

"People generally have not yet translated the billion dollar newspaper headlines on defense expenditures by the government into the one dollar personal and family adjustments that will have to be made next year by the public," Mr. Hirose declared.

Broader taxes, higher taxes, and higher prices—none of which have affected this year's business to any large extent, will hit with a heavy blow next year, he said. Among these he included:

**INCOME TAXES:**—The new income tax schedule will mean higher rates for all tax payers and lowered exemptions. More important, it will make about 3 million people liable for income taxes who have never paid before. How many of these people will have made preparation for this extra levy on their purchasing power in the form of savings?

**CONSUMER TAXES:**—The new consumer taxes that went into effect on Oct. 1 are bound to affect the purchasing power of everyone because they cover a large list of goods. These consumer taxes will reduce consumer purchasing power.

**HIGHER LIVING COSTS:**—Consumer purchasing power will be further cut down by mounting prices and higher costs of living. Food, rent, fuel, and clothing, to cite the necessities. At the recent American Bankers Association convention it was predicted that living costs would increase 15 to 20% next year.

Dr. Moulton, head of the Brookings Institution, estimates that higher taxes and increased living costs will reduce the purchasing power of 40,000,000 people by about 25% next year. Forty million is a lot of people.

**NEW HOMES:**—The government is discouraging the building of all new homes outside the defense housing classification.

**WIRED HOMES:**—Because of priorities, many utilities may not be able to extend their lines to take care of new customers.

**CURBS ON INSTALMENT BUYING:**—The new instalment terms on appliances are already adversely affecting the business of some dealers.

**DEFENSE BOND AND STAMP DRIVES:**—Next year is bound to see a stepping up of drives to sell defense bonds and stamps. All of us will patriotically do what we can to encourage such drives. But at the same time we must realize that such efforts will cut down the spendable income of the consumer.

**ANTICIPATED APPLIANCE BUYING:**—Many families who have already bought appliances this year had not planned to buy them until 1942 or later on. Some of the sales we might have made in 1942 have already been made.

**PRIORITIES' UNEMPLOYMENT:**—The curtailment of production of consumer goods, due to shortages of strategic materials, is already creating serious unemployment in many one-industry cities and towns and causing serious dislocation of large groups of workers.

"Other factors, like possible power shortages, loss of retail salesmen who are turning to other fields of work or the army, the stiff competition of other industries for consumer's dollars and other conditions, may discourage appliance buying.

"Any national economic adjustment, like the one we're going into, means selective spending—economic spending—call it what you will," Mr.

## Tell 'Conservation' Story To Keep Market In 1942, Leagues Advised

WASHINGTON, D. C.—Although direct promotion of electrical appliances may be side-tracked, temporarily, by defense program requirements, the industry still has an important story to tell in 1942—one which will aid, rather than hamper, the defense situation—and that is a story of "conservation" of both electric power and electrical home equipment through proper maintenance and use of appliances now in service, believes J. S. Bartlett, managing director of the Electric Institute of Washington.

Speaking before the recent annual conference of the International Association of Electrical Leagues, Mr. Bartlett asserted that "the most important job before the industry at this time is to keep the public electrically conscious—to keep the appliance market open for future development, in the face of impending appliance shortages."

"This shortage of appliances," he declared, "will mean that equipment now in use will have to give longer service. Public consciousness of appliances will drop off, because there will be fewer new appliances to talk about, fewer new users to spread word-of-mouth advertising, less advertising to call public attention to appliances and what they do."

He urged that the industry be prepared to "hit hard" the moment the seller's market begins to soften, and indicated that, in his opinion, intensive promotion will be required next year to sell even the amount of new merchandise that is available.

"Thinking the industry is persecuted won't help," he asserted. "Every industry has had to make sacrifices—and this is only the beginning."

"Now, more than ever, the industry needs to tell a united story—a story that will keep open the potential

market for appliances until such time as these are again available in unlimited quantity—a story not in conflict with the aims of the national defense program.

"How can we adapt our educational job to the aims of the defense program? By adopting a theme of conservation as a basis of our program to the public.

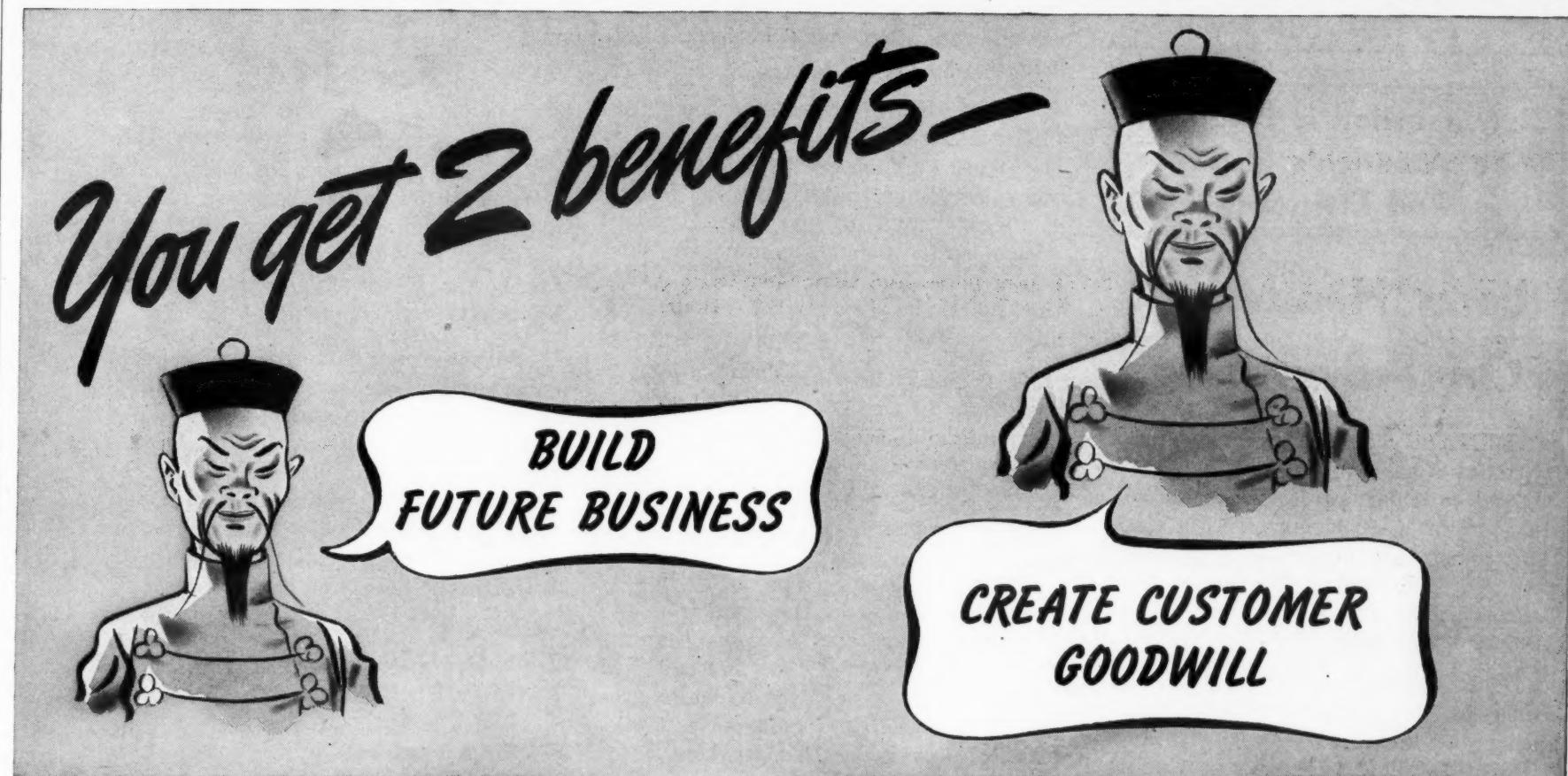
"Conservation, first, of vital materials—by keeping present appliances in proper condition—by keeping users satisfied through increasing the efficiency of their appliances.

"Secondly, conservation of food-stuffs—helping to combat the high cost of living. Again, this is right down our industry's alley.

"We can emphasize economical operation, advocate more oven meals in electric ranges, the use of cheaper cuts of meats, use of the well cooker.

"The 'conservation' theme will fit in perfectly with the government's defense policy, and electrical appliances can still be kept in the public mind, and come out with the same high public acceptance they've enjoyed in the past. Naturally, such a program would be directed primarily at present appliance users."

## PREPARE FOR THE FUTURE.. OFFER REGULAR CHECK-UP SERVICE NOW!



**M**AYBE Confucius didn't say it, but when stream freezes over is time to store ice for summer. Likewise, now when people are conservation-minded, it is time to store up goodwill and future business by helping your customer make the best use of what he has.

You can be a big help to your customer and yourself...by offering a regular check-up service. You won't meet sales resistance. In fact, this service puts you in solid with the customer for the better days to come.

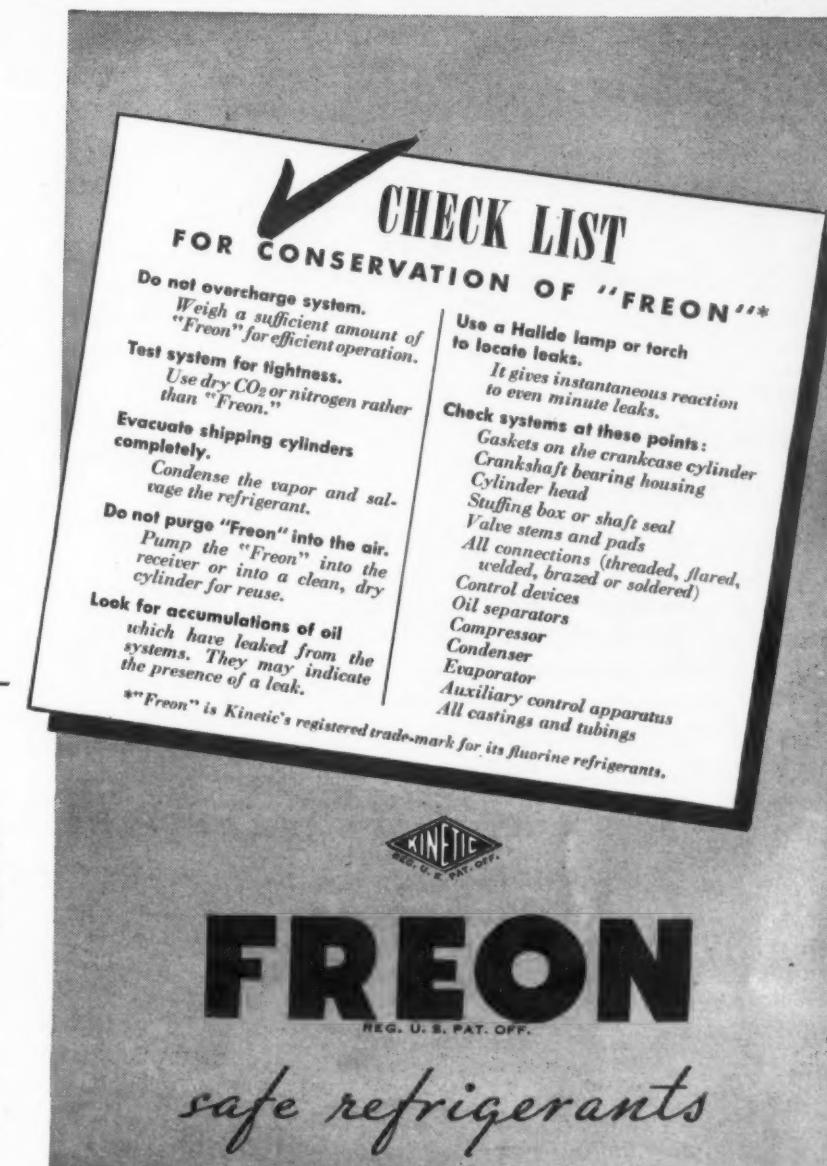
**Let us help you...** A great conservation of "Freon-12" can be made in the servicing of equipment and in handling. We recognize that there is no substitute for sound, practical experience...and that there already is literature available on the handling of refrigerants. But we have gathered together information on major causes of waste and loss into a convenient new booklet covering these points in detail.

This booklet is designed as a helpful guide to assist you in making the most of your new opportunity—a regular check-up service to reduce waste and losses. Send for it now!



TAKE A TIP from the Chinese Doctor—who is paid to keep patients well. This service manual will help you keep your patients thinking along conservation lines.

KINETIC CHEMICALS, INC.  
TENTH & MARKET STREETS  
WILMINGTON, DELAWARE



# Air Conditioning & Refrigeration News

Trade Mark registered U. S. Patent Office; Established 1926 and registered as Electric Refrigeration News

F. M. COCKRELL, Founder

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## Refrigeration Is Essential To America's Health And Efficiency

## Leon Henderson On Advertising

PERHAPS no man in government today has more influence on internal policy than Leon Henderson. His star has been rising steadily since 1937, when his economic prophecies rang the bell, and today he is both Chief Thinker and Chief Doer in the OPM and the OPA.

He has the ear of Roosevelt, and seems to have the President's confidence and blessings. And he is such a forceful fellow that no one doubts he will continue to gain in stature so long as the Head Man gives him the green light.

Hence his statement last week before the American Association of Advertising Agencies should be marked well by all advertisers. This statement now becomes the Official Policy of the Administration with regard to advertising.

### MORE ADVERTISING NEEDED, HENDERSON BELIEVES

Said Leon Henderson:

"Some of your trade publications and other sources have ascribed to me a point of view about advertising. The clear inference has been that I am a charter member of some little cell of conspirators whose main purpose in life is to alter, reform, or perhaps destroy advertising as we know it."

"However, if I have a point of view about advertising it is that under the sort of expanding economy I would like to see there should be more of it."

"I consider advertising is included in the category of important civilian activity."

"It has been our experience so far in the price ceilings we have fixed

that advertising has not even been considered as a major cost element.

"Usually questions of labor costs, transportation, raw materials, and other items are fully analyzed and appraised but so far selling and distributing costs have not been urged as a compelling reason for opposing a price ceiling. . . . I stand on the statement which I made in my testimony before the House Banking and Currency Committee that our policy would be as a matter of course to take normal selling and advertising costs into account. I stated further that I had no secret reservations about that statement. I repeat it now."

### 'ADVERTISING CAN HELP COUNTRY UNDERSTAND'

"None can escape the impact of the increasing utilization of materials and productive capacity for armaments. It is my hope that you in the advertising profession will accelerate your efforts in helping the country understand not only the necessity for adjustments but to devise methods of easing the shock . . . I have been impressed by advertising copy and radio announcements which emphasize conservation and other helpful methods of bridging the gap."

There it is, straight from the Policy Maker. We are glad to get it on record. (Incidentally, it supports our reiterations that Henderson is not a "Red"—contrary to the popular misconception among many of our subscribers—and that when he is given the facts, he arrives at reasonable answers.)

We hope also that Henderson's assistants in the OPA have read this and understand that it is the POLICY.

### ADVERTISING HAS REAL JOB TO DO NOW

Advertising has a real job to do—a great job to do—in the coming year. It is a different sort of work than it has been doing during the last several years, but it is one which challenges the imagination and enterprise of all who take pride in their work.

Failure to use advertising for its new purposes now is, frankly, failure. It is a confession of inadequacy, incapacity, or fear.

On the other hand, those who have thought out advertising's new possibilities and opportunities have demonstrated vision, imagination, intellectual acumen, and self-confidence. They have, in addition, said to the world: "We mean to stay in business."

### SEES EVEN GREATER NEED IN POSTWAR PERIOD

As Leon Henderson put it so magnificently:

"So far as advertising is concerned, I repeat that it must survive as a thriving dynamic force. Not only does it deserve to continue because of its contributions to our way of life, but it has a job to do now."

"And I can visualize an even greater use of the technique when peace comes and a vast surplus of men, materials, and productive capacity calls for the vision and leadership to translate these resources from production for war to production for peace. When that time comes it is my judgment that if we are intelligent and resourceful, new and vast horizons will open for us all. Our job now is to hasten that day."

## They'll Do It Every Time . . . . . By Jimmy Hatlo



## 'Courtesy Discounts'

### On Way Out

### For 1942

SOME of our good friends among appliance retailers are a bit miffed because a few weeks back we ran an article on how a "courtesy discount" house works. They think it would be far better if we "honored" only the legitimate type of dealer.

Although it's flattering when people consider that an article in the NEWS is an "honor," we wish they wouldn't feel that way. This is strictly a newspaper, not a puff sheet. We try to tell what's going on in the world; and mere explanation of a practice or an operation does not constitute approval. It certainly does not in this case.

### TIME IS NOW RIPE TO WIN THE BATTLE

Progressive retailers in many parts of the land have been waging a fight to eliminate the "courtesy discount" practice—a fight for which the editors have full sympathy. What's more, the time now appears ripe for them to win their battle completely.

Now that the manufacturer is limited as to his output, it seems likely that the "legitimate" dealer can sell everything that can be shipped to him, and sell it at a profit. The chiselers will probably be left out on a limb.

There is no reason why appliances should be given away in any year, least of all in 1942. But especially in 1942 the dealer should know he doesn't have to cut the price in order to make the sale. The old story of "if I don't do it someone else will" doesn't work now. The answer to that is: "Let him."

### GOOD MERCHANTISER CAN LAUGH AT DISCOUNTERS

The man who discounts his appliances next spring will find he is soon out of merchandise, with nothing to show for it. The man who refuses to cut prices can afford to bide his time for customers. They'll be available eventually, and when they do, they'll be tickled to death to get the goods at the full price. This is one time when the dealer is going to be in the driver's seat.

## LETTERS

### SALES MANAGER 'BEEFS' ABOUT COURTESY DISCOUNT ARTICLE

Markee Appliance Store  
1512 Sixth Ave.  
Moline, Ill.

Editor:

The writer wishes to express a very vigorous "beef" against the article in the Oct. 29 issue of the NEWS, "Courtesy Discounts" for Cash Bring Sales."

It has always been my contention that the NEWS was in accord with the Independent Retailers, and in this regard it would be against any such practice as outlined in the article mentioned.

This practice of courtesy discounts has always been one of the Independent Retailers' largest headaches. It was with a great deal of surprise that the writer came across this article in the NEWS.

Your comments pro or con on this will be greatly appreciated.

L. P. OLSON,  
Sales Manager

### WHERE'S THE COURTESY IN 'COURTESY DISCOUNTS'?

Philip H. Harrison & Co.  
191 Central Ave.  
Newark, N. J.

Editor:

It may be news (page 2, Oct. 29 issue) when someone makes a success of retailing by granting "courtesy discounts." But when it is played up in your pages as a smart method of operation, you astound every advocate of sound practice in the business of retailing. What "courtesy" does the subject of the article show his fellow dealers, who, by maintaining prices, throw business into his lap? How long would he last if all dealers met his prices? How long would all remain in business if all extended like "courtesies" to the consumer?

It will take many printed words in support of decency in electrical appliance merchandising to expiate this one black sin.

THOMAS E. BABSON

### READ THE EDITORIAL FOR YOUR ANSWER

Fort Plain, N. Y.

Editor:

We are wondering if you are in accordance with the article "Courtesy Discounts" for Cash Bring Sales" in your Oct. 29 issue.

It seems that this method is in direct violation of good business ethics and should be curtailed instead of encouraged. Naturally a number of units have been sold through this scheme, but this has been accomplished at the expense of other appliance dealers who are operating along approved lines.

There is no basis for the classification "Commercial Account" but is merely another name for cut-price competition.

Your comments will be appreciated.

ISAIAH GESLER

### 'FIGHTING FOR US'

South Carolina Power Co.

141 Meeting St., Charleston, S. C.

Editor:

We think your publication is fighting a battle for all of us.

W. D. HIGHFILL

## G-E Shifts Commercial Engineers



**H. D. KELSEY**  
Has been transferred from General Electric's air conditioning and commercial refrigeration department to the supercharger engineering department "for the duration."



**F. T. GROTHOUSE**  
Assumes charge of the air conditioning department's Winter St. plant in Fort Wayne, Ind.

**Milton Named To Head  
G-E Plastics Dept.**



**D. W. McLENEGAN**  
Takes Mr. Kelsey's place as engineer in G-E's air conditioning and commercial department.

**Haislmaier Will Manage  
Young Radiator Sales**

RACINE, Wis.—George J. Haislmaier has been appointed sales manager of the contract products division of Young Radiator Co. here.

Mr. Haislmaier has been with Young Radiator Co. since 1936, and until his most recent promotion had served as assistant sales manager and government specification engineer of the company's contract division, which includes the manufacture of heat exchangers, automotive radiators, jacket water coolers, and other types of heat transfer products for transportation, industrial, and military purposes.

J. J. Hilt, who has been serving as contract division sales manager, in addition to his duties as vice president, will now devote his entire time to the development and coordination of contract work being handled for defense needs.

**Moock Moves MacFarlan  
To Youngstown Branch**

CANTON, Ohio—G. P. MacFarlan, for the past five years advertising and sales promotion manager of Moock Electric Supply Co., Westinghouse distributor here, has been appointed manager of the company's Youngstown, Ohio branch. He succeeds J. F. Clark, who has been transferred to apparatus and supply sales in the Youngstown territory.

Mr. MacFarlan's former position has been taken over by M. C. Schoenley.

PITTSFIELD, Mass.—William H. Milton, Jr., has been named manager of General Electric Co.'s plastics department, succeeding G. H. Shill, who has been appointed assistant to the manager of the appliance and merchandise department.

Mr. Milton has announced plans for the construction here of a million-dollar plant for the production of synthetic phenol. G-E is undertaking the plant, which will be in operation in September, 1942, at the request of the Office of Production Management, which is seeking to alleviate the present shortage of phenol.

Four structures resembling the layout of an oil refinery will comprise the plant. The principal plant will be a single story structure to be located east of the 1 Plastic Ave. plant.

The new plant is an outgrowth of the pilot plant development which has been conducted here for the past two years under the direction of Dr. G. F. D'Alelio, director of G-E's plastics department laboratory. It is expected to produce about 75% of the department's present requirements for phenol. About 20 employees will be required to operate the plant.

**Leagues Elect Christine  
President for 1942**

WASHINGTON, D. C.—Carl H. Christine, secretary-manager of the St. Louis Electrical Board of Trade, was elected president of the International Association of Electrical Leagues for next year, to succeed J. S. Bartlett, managing director of Electric Institute of Washington.

J. A. Morrison, managing director of the Electrical Association of Philadelphia, was elected vice president, and W. A. Ritt, secretary-manager of North Central Associated Electrical Industries, was named treasurer. O. C. Small continues as secretary.

Members of the board of governors, in addition to the officers, include G. W. Austen, manager of the Electric Service League, Toronto; A. A. Gray, manager of the Electric Association of Chicago; J. E. North, managing director, Electrical League of Cleveland; Ralph Neumuller, secretary of the Electric & Gas Association of New York; and G. W. Weston, secretary-manager, Electric Association of Kansas City. Mr. Bartlett will serve as an advisory board member.

**Sikes Heads Branch Sales  
For Robbins & Myers**

KANSAS CITY, Mo.—R. L. Sikes has been appointed branch sales manager for Robbins & Myers, Inc., appliance wholesaler for Kansas City, Co., and Kansas City, Kan. Mr. Sikes came to the firm from Springfield, Ohio. Appliance sales are far ahead of last year, refrigerators 32%, and electric ranges 66%.

**G. W. Onthank Organizes  
Own Distributorship**

DES MOINES, Iowa—G. W. Onthank, for the past 10 years treasurer and assistant general manager of A. A. Schneiderhahn Co. here, has resigned to organize a new appliance distributorship, the G. W. Onthank Co. Mr. Onthank will head up the new firm as president and general manager.

**Hickox Named Asst. Sales  
Manager For Jacobs**

COLUMBUS, Ohio—Jack Hickox has been appointed assistant sales manager of the Jacobs Appliance Co., 195 East Livingston Ave. The firm is a south side dealer for G-E refrigerators.

Mr. Hickox was associated in the appliance and furniture field in Chicago for a number of years.

**"You..."  
A STATEMENT OF POLICY**

You may be a "big producer" . . . you may be a side street service shop . . . but *you*, regardless of size, are the backbone of the Refrigeration and Air Conditioning Industry and deserve a square deal *now* more than ever.

Now, with priorities, unprecedented demand and a vast shortage of many vital and familiar materials driving every phase of business into the teeth of a sellers' market . . . Kerotest wishes to publicly renew its standing policy of the past quarter century.

**THERE IS NEVER A SELLERS' MARKET AT KEROTEST FOR YOU.**

Consider your dealings with Kerotest . . . think of the many times you have specified and used Kerotest Valves and Fittings . . . and the 100% satisfaction and dependability connected with each and every instance. We recall these facts to you, because very trying times are at hand when *your understanding* must temper deliveries, prices, quantities, everything but Kerotest quality.

With priorities limiting us and demanding that we search out the validity of your orders, with deliveries to us and consequently to you, restrained and difficult, we bring you this message of faithful cooperation. Any selling or producing advantage which Kerotest may enjoy will be promptly passed along to you so that together we all may find a measure of success.

Regardless of the change in conditions . . . regardless of priorities, selling advantages and competition, Kerotest pledges to supply the finest valves and fittings that can be produced, each made to the Kerotest high standard of quality and dependability, delivered and marketed as quickly and economically as conditions will permit.

We repeat, you'll never face a sellers' market at Kerotest. We still know that *you* are our business and our success lies within your success.

**KEROTEST MANUFACTURING COMPANY  
PITTSBURGH • PENNSYLVANIA**

  
General Sales Manager

**KEROTEST**

MANUFACTURERS OF TOP QUALITY VALVES AND FITTINGS FOR THE REFRIGERATION AND AIR CONDITIONING INDUSTRY

**DU PONT**  
REG. U. S. PAT. OFF.

**Artic**  
REG. U. S. PAT. OFF.

*The Preferred Methyl Chloride  
for Service Work... Backed by  
Du Pont Technical Assistance*

Visit Du Pont Exhibit at the Fourth All-Industry  
Refrigeration and Air Conditioning Exhibition  
(Booths 314, 316, 318) — Stevens Hotel,  
Chicago, January 12-15

**DU PONT**  
REG. U. S. PAT. OFF.

For information about nearest source of supply, write to  
THE R. & H. CHEMICALS DEPARTMENT  
E. I. DU PONT DE NEMOURS & CO. (INC.)  
Wilmington, Delaware  
or National Ammonia Division  
Frankford P. O., Philadelphia, Pa.

## Prediction of Branch Plant Expansion Voiced at Ohio State Locker Meeting

COLUMBUS, Ohio — The Ohio Frozen Food Locker Association, host here to more than a hundred member executives at its Third Annual convention on Oct. 31, heard Prof. T. P. Blauser, extension agricultural engineering specialist, predict the rapid increase in number of small branch plants throughout the country.

Prof. Blauser gave the results and conclusions of an extensive survey he had just completed covering usage problems of typical locker patrons. The survey, conducted under the University's Extension Service Division, was a careful statistical study of opinions of patrons carefully selected proportionately from income groupings.

Designed to determine the likes and dislikes of the patron, this unique survey showed that the greatest objection was distance to plant. Indicating that a wider and more comprehensive distribution of small branch plants would bring greater public acceptance of the locker industry, Prof. Blauser suggested that such branches would provide the same facilities and services now given except that processing would be limited to centrally located main plants.



### New 16-page Manual

Illustrated suggestions for cutting, bending and flaring small diameter copper tubes. Ask for copy.

THE AMERICAN BRASS CO.  
FRENCH SMALL TUBE BRANCH  
General Offices Waterbury, Conn.

## A MASTER equipped plant can grow as demand grows — — — without headaches

**MASTERBUILT** Lockers are adaptable to growing, changing Locker Plant needs because of their design as well as the fact that they are completely individual.

For ease and low cost of assembly and for flexibility of installation, they are in a class by themselves.

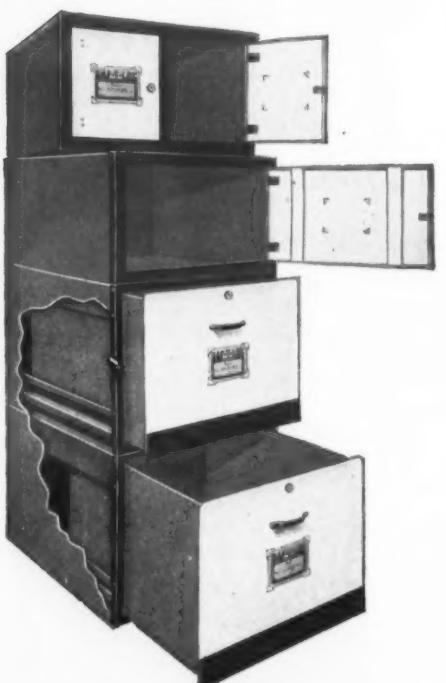
### 24 Different Sizes

Masterbuilt Lockers come in two types and in twenty-four different sizes. There is a size and type to exactly fit your requirements. Illustrated are the two types (top) "2 in 1" Convertible SAF-T-LOC, (others) SAF-T-LOC Lockers and Drawers.

### Write for full particulars

Learn why Masterbuilt Lockers are preferred by exacting plant owners and distributors. Find out where they excel. A postcard will bring full details.

Master products are endorsed by and sold only through distributors of refrigeration and insulation.



MASTER REFRIGERATED LOCKER SYSTEMS, Inc.  
121 Main St.  
Sioux City, Iowa

Over 225,000 Masterbuilt Lockers in Use

## Locker Plant News Notes

### GREENCASTLE, IND.

GREENCASTLE, Ind. — Putnam Frozen Foods Corp.'s new locker plant was opened here last month. Prof. Clark Arnold, a member of the faculty of DePauw University and also a director of the Putnam company, officiated as host on the plant's opening day.

### CARTHAGE, ILL.

CARTHAGE, Ill.—A \$15,000 locker plant with 550 lockers is being erected here. It is expected to be in operation by the middle of November.

### MINERAL POINT, WIS.

MINERAL POINT, Wis.—A stone residence building here is being remodeled to house a locker plant to be operated by J. S. Jesse of Dodgeville, Wis. The plant is slated to be opened in November.

### SPARTA, ILL.

SPARTA, Ill.—The locker plant recently completed for Farmers' Food Locker Plant Service was opened during the last week of October. Ernest Beisner is proprietor. Equipment was installed by Hussmann-Ligonier Co., St. Louis.

### CLARKFIELD, MINN.

CLARKFIELD, Minn. — Kelley Peterson's locker plant was opened here last month with 200 lockers installed and room for 100 more if needed.

### SPRINGFIELD, ILL.

SPRINGFIELD, Ill. — Ivan J. Falconer of Buffalo, Ill. has opened a locker plant here. For the past year Mr. Falconer has been in charge of the air conditioning system in the Rolls Royce aircraft motor plant of Packard Motor Co., Detroit.

### MORRISONVILLE, ILL.

MORRISONVILLE, Ill.—A locker plant was opened at the Stewart Bros. Market here during the last week in September. Frigidaire equipment was installed in the plant by Decatur Heating & Air Conditioning Co.

### BLANDINSVILLE, ILL.

BLANDINSVILLE, Ill. — Ehrman Walsh's 250-locker frozen food storage plant now under construction here is expected to be opened in November.

### ALTAMONT, ILL.

ALTAMONT, Ill.—Reiss Bros. opened a locker plant here Oct. 3.

### WINNER, S. D.

WINNER, S. D.—A 170-locker frozen food storage plant was put into operation at the Rathbun market here on Oct. 8. Emil Rathbun is proprietor and manager.

### CONVERSATION

Masterbuilt Lockers are adaptable to growing, changing Locker Plant needs because of their design as well as the fact that they are completely individual.

### 24 Different Sizes

Masterbuilt Lockers come in two types and in twenty-four different sizes. There is a size and type to exactly fit your requirements. Illustrated are the two types (top) "2 in 1" Convertible SAF-T-LOC, (others) SAF-T-LOC Lockers and Drawers.

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Master products are endorsed by and sold only through distributors of refrigeration and insulation.

MASTER REFRIGERATED LOCKER SYSTEMS, Inc.  
121 Main St.  
Sioux City, Iowa

Over 225,000 Masterbuilt Lockers in Use

## Continuous Educational Demonstrations Rent Lockers For Oklahoma Plant

FORT COBB, Okla.—An intelligently planned, thoroughgoing program of educational demonstration deserves much of the credit for the progress made by the locker plant operated by the Fort Cobb Electric Refrigeration Cooperative here.

This plant, a complete-service establishment, is financed by the Rural Electrification Administration. It opened for business shortly after the first of this year.

Education of the surrounding populace began on the day the plant opened. A day-long open house program was held, and the 425 persons attending were afforded an opportunity to see just what a locker plant was like and what it could do. They also were given a chance to taste samples of frozen fruits and vegetables.

In addition to answering all sorts of questions about the plant's operation, the management asked all visitors pertinent questions as to the quantities of meat, fruits, and vegetables their families required, and how far they lived from the plant.

The need for further education was obvious. "Cold storage is new to this section," explains Glen Nixon, superintendent of the cooperative. "The people have used home canning and curing methods for so long that they must actually be shown the advantages of frozen foods. Demonstration is a necessity."

Following the plant's opening, a series of six schools of instruction was conducted. First of these was

## New York Locker Plant Is Listed By Gov't As Blood Storage Depot

EAST AURORA, N. Y.—Started more or less as a gamble a year ago, the Frozen Food Locker Service of Griffin & Webster, Inc. has progressed far beyond its owners' original expectations.

The plant opened with 150 lockers last October. This was believed to be sufficient capacity for the first year of operation.

The 150 were all rented at the end of six months, however, and it became necessary to add 75 more. The plant has a total capacity of 375 to 390 lockers.

Since it is the only plant of its kind in the western New York area, it draws customers from a wide radius.

Ready to play its part as a food storage depot in any national defense plan, the plant also has been listed by defense authorities as available for blood bank storage.

The plant is equipped to give complete food service, including the smoking and curing of meats, preparation and wrapping of all foods, and quick freezing, as well as storage.

A colored tape system of package identification is used.

A booklet containing specific instructions on how to prepare and wrap foods for frozen storage is supplied each customer wishing to do his own processing.

held in the auditorium of the local high school, with the high school's home economics teacher serving as Mr. Nixon's assistant. The remainder of the school sessions were held at the locker plant itself.

The first of the schools at the plant was concerned solely with beef. The plant butcher completely processed a half beef, demonstrating the proper way to divide it into the best cuts. The home economics teacher demonstrated the way to get the most out of these cuts by proper cooking.

The next school did the same for pork. One school had to do with vegetables, another with fruits and berries.

Next step in the educational campaign took Mr. Nixon and the home economics teacher to country school houses and other community meeting places for meetings at which the plant's services were demonstrated as completely as possible. Later, another open house was held at which most of these processes were demonstrated again.

Meanwhile a "news sheet" had been kept in circulation, and some advertising had been done.

As a result of all this effort, Mr. Nixon reports that the safety economy, and practicality of locker service have been so impressed upon the public that the cooperative's membership now spreads out over a 25-mile radius and a plan for establishment of a string of branch plants is well under way.

## Miss. Plant Promoted By Chamber of Commerce

INDIANOLA, Miss.—The Chamber of Commerce here has announced successful conclusion of its campaign to raise \$3,500 to erect a quick-freeze locker plant in connection with a meat curing plant operated by V. A. Johnson and associates. The plant will have 150 lockers to start, with provisions for the addition of 150 more later on. Five-year 5% bonds were sold to raise the funds for the plant's construction.

## Priority Rating Speeds Building of Ark. Plant

EL DORADO, Ark.—A \$75,000 ice manufacturing and frozen food locker plant is being constructed here by Sam Alphin of El Dorado. D. F. Troxell is to be manager.

The plant, for which all machinery has already arrived, due to priority rating because of importance of the plant in food preservation for national defense, will have quick-freezing facilities and frozen food storage lockers, an ice manufacturing department, and a meat curing department.

The frozen food section will be the first of its kind to be established in Union County.

## Fifty - Fifty

CONNSERSVILLE, Ind.—Rural and urban patronage is about equally divided at the locker plant operating in conjunction with the McDonough Market here.

Up to Oct. 1, 41 farmers and 38 city dwellers had signed rental contracts for the lockers.



# Fundamental Theory and Various Types of Single Phase Electric Motors

## Single Phase Motors

**Editor's Note:** This is the sixth instalment, and the third section, in a series of articles on electric motors written for the refrigeration and air conditioning service man. It is the aim of the author to give in simple terms a description of direct current, polyphase, and single-phase motors, and then discuss installation, maintenance, and servicing problems.

By R. A. Fuller,  
Industrial Engineering Dept.,  
General Electric Co.

### Fundamentals

Alternating current is peculiar in that it is continually changing in strength. For example, with 60 cycle current, in one-sixtieth of a second the current increases from a minimum value to a maximum value and decreases to the minimum value again as shown in Fig. 29. This is known as one cycle.

The current goes through this change repeatedly so that the current flow is as shown in Fig. 30. The effect is very much as if we had a battery to which we connect, and then disconnect, the motor 60 times a second.

Motors for use on single phase alternating current are very similar, in many ways, to polyphase motors. The stators are very similar in construction and appearance as laminated iron is used to reduce eddy currents and the windings are inserted in slots in the iron.

Many single phase motors use squirrel cage rotors. Rotating field effects are also present. It is therefore recommended that the operation of polyphase motors be studied carefully before approaching the subject of single phase motors.

### Shaded Pole Motors

Fig. 31 illustrates a coil with an iron core to increase the magnetic effect. Part of one end of this core is surrounded by a heavy copper loop known as a shading ring. This ring has the characteristic of delaying the flow of magnetism through it. In each cycle, with alternating current applied to the coil, the magnetism is strong first at A and then, slightly later, at B. This is, of course, repeated 60 times per second if we assume that 60 cycle power is used.

As shown in Fig. 32, this gives a rotating field effect that drags the squirrel cage rotor in the direction in which the shading ring points.

### Electric Current Characteristics

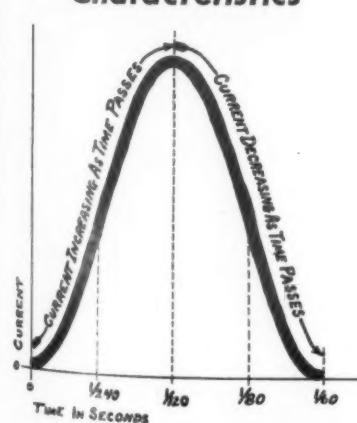


Fig. 29 shows how alternating current increases and decreases in value during 1/60th of a second. The phase shown here is known as one cycle.

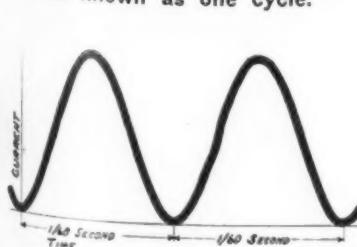


Fig. 30 illustrates the continued variation in intensity of alternating current.

This is known as a shaded pole motor. It is not feasible to build efficient motors of this type larger than those used for small agitators and fans. The actual construction of shaded pole motors is pictured in Fig. 33.

### Permanent Split Capacitor Motors

Fig. 34 shows two stationary windings and a squirrel cage rotor. Coil 1 is connected to a single phase line through a capacitor while coil 2 is connected directly to the line. The capacitor has a peculiar effect. As the current increases, in each cycle, it flows more quickly through the capacitor and coil 1 than it does through coil 2. Thus coil 1 becomes magnetically strong first and then coil 2 becomes magnetically strong. Assuming that 60 cycle power is used, this is repeated 60 times a second.

We have, therefore, a rotating field—1 strong, 2 strong, 1 strong, 2 strong, 1 strong, and so on—which causes the squirrel cage rotor to revolve. As the capacitor is permanently in the circuit this is known as a permanent split capacitor motor.

Capacitors for continuous service are bulky and expensive. These motors are therefore used chiefly in the very small sizes for operating fans.

Permanent split capacitor motors are also used for adjustable speed operation. Reductions in speed are obtained by lowering the voltage applied to the motor and thus increasing its slip. For adjustable speed service such motors are occasionally used even in the largest sizes in which single phase motors are built.

Many other types of single phase motors are not suitable for adjustable speed operation due to centrifugal mechanisms that operate near the maximum speed of the motors. If we reduce the voltage applied to such motors we quickly reach a point where the motor may not come up to a high enough speed to operate the centrifugal mechanism. There is thus danger of keeping windings, capacitors, brushes, and commutators continuously energized when they are only designed for the momentary duty of starting.

### Shaded Pole Motors

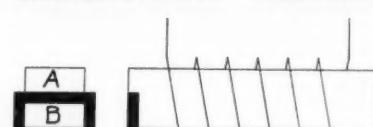


Fig. 31 sketches a shaded pole motor in which a coil is wound around an iron core to increase the magnetic effect.

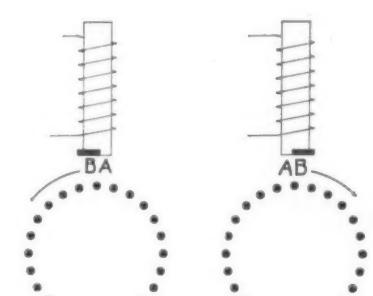


Fig. 32 shows how the squirrel cage rotor revolves in the direction in which the shading ring points.

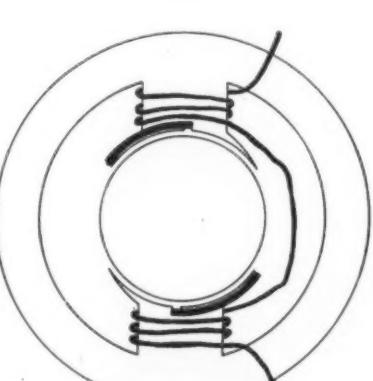


Fig. 33 pictures the actual construction of a shaded pole motor.

### Split Capacitor Type Of Electric Motor

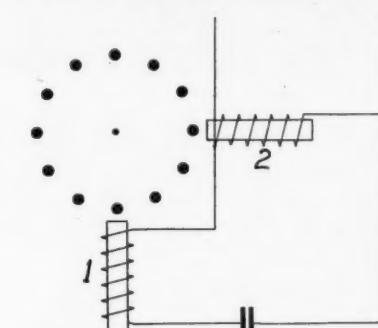


Fig. 34 shows the method used in constructing a split capacitor type motor. There are two stationary windings and a squirrel cage rotor.

### Jacobs & Gile, Portland, Joins Jobber Group

CHICAGO—Jacobs & Gile Co., Inc., 1900 S.E. Grand Ave., Portland, Ore., has become a member of National Refrigeration Supply Jobbers Association. Murray Jacobs is president of the company; O. V. Gile is vice president; and R. P. Mercer is secretary.

### Refrigerator Blue Book of Trade-Ins For 1942 Including New Features Lists 2,000 Models of Household Units

PHILADELPHIA—First printing of the 1942 edition of the "National Refrigerator Market Report," known as the "refrigerator blue book" has been announced by National Refrigerator Market Report, Inc., of this city.

Several new features are included in the National Refrigerator Market Report setup this year, including an advertising mat service for selling reconditioned boxes, and a section which describes "free services" available to subscribers to the book.

The book is in the same style as the 1941 edition, and lists and illustrates more than 2,000 models of household electric refrigerators so that they may be identified by customer and dealer. It gives a value to each model listed. Descriptions and cuts of the models are printed on 4 1/2 by 7 1/2-inch pages.

Among the "added features" is the "Advertising Mat Service" which makes mats of tested, snappy, rebuilt refrigerator advertisements available to subscribers at cost.

Listed among the other free services are the following: names and addresses of firms who might be able to help the subscriber with his purchase, sales, or repair problems; consultation service on the identification and appraisal of commercial units; identification and appraisal of odd household refrigerators; consultation service on the disposal of trade-ins; and by product service.

consultation on service problems; buying service for motors, hardware, shelves, ice cube trays, accessories, and parts of all types.

### 2 Horizontal Thermostats Developed by M-H

MINNEAPOLIS—Two new thermostats of horizontal design are announced by Minneapolis-Honeywell Regulator Co.

These thermostats are available in two types, one for heating applications only, the other for either heating or cooling. They are capable of handling directly large motor-driven units, cold blowers, cooling equipment, industrial and commercial stoker fired heating plants, etc. On larger or polyphase motors they should be used in connection with magnetic starters. Where desired, of course, they can be used in low voltage circuits.

Horizontal design is said to provide maximum air circulation and to reduce the effect of contact heat. The new M-H Con-Tac-Tor Snap-Switch provides the switching action. Temperature setting knob can be removed to lock the thermostat in order to prevent unauthorized tampering. Models are also available with a "positive on" feature for cooling applications.

## Valuable in Peacetime • Vital Now! Humidity Control with ACTIVATED\* ALUMINAS



Lectrodryers on assembly line for Defense jobs.  
Alorco Activated Alumina removes the moisture.

In plants where explosives and other chemicals are being processed—in metal working shops to protect fine finishes—in warehouses to safeguard strategic materials being handled, stored and packed—wherever humidity control is required, you'll find Lectrodryers.

Charged with Alorco Activated Alumina, these dryers accurately maintain the moisture content of air at low levels. Beds containing the Activated Alumina are automatically reactivated and put back into the drying cycle to insure a continuous flow of evenly dehumidified air.

Whether you're controlling humidity or drying refrigerants, you'll find that Alorco Activated Alumina serves you equally well. It is removing moisture from air and gases to dew points below -110° F. It is successfully drying refrigerants and removing all acid, thereby protecting and lengthening the life of the equipment.

Ask your supply house for refrigerator cartridges and dehydrators charged with Alorco Activated Alumina. ALUMINUM COMPANY OF AMERICA (Sales Agent for ALUMINUM ORE COMPANY) 1908 Gulf Building, Pittsburgh, Penna.

These manufacturers supply cartridges and dehydrators charged with Activated Alumina:

American Injector Company  
Fedders Manufacturing Company  
Henry Valve Company  
Imperial Brass Manufacturing Co.

\*Registered Trade-Mark

Kerotest Manufacturing Company  
McIntire Connector Company  
Mueller Brass Company  
Cyrus Shank Company

★ ALORCO ★  
**ACTIVATED ALUMINA**  
DRIES REFRIGERANTS DRY



## Refrigeration Essential For Britain

## England Doubles Its Building Program For Cold Storages To Meet Wartime Needs

SOMEWHERE IN ENGLAND—Refrigeration for storage of food is vital to a nation at war is shown by Great Britain's steadily expanding program for the construction of additional cold storage accommodations. Since the Ministry of Food announced its plan in January, 1940 for augmenting cold storage facilities, the program has grown until now more than double the original additions are scheduled.

Typical of what the British government is constructing to meet current needs is a new three-floor cold storage plant recently completed in the western Midlands.

This plant has a storage capacity of approximately 600,000 cu. ft. Roofed with asphalt, the building has been carefully camouflaged to deceive enemy air raiders. Another war-time note is the installation of two independent refrigerating systems, each handling half of the building. In the event of bombing one half of the plant could continue in operation even though the other

half were knocked out of commission. Each half of the plant consists of six chambers maintained at 14° F. Lower temperatures may be held if desired. The whole plant is raised to the height of railway and truck loading platforms extending its entire length on either side.

Cooling system is designed to operate with dry compression and flooded evaporators. Control is completely automatic. Two engine rooms are located at either end of the building, one housing two ammonia compressors, condensers, and other equipment, while the other contains one compressor, condenser, and allied equipment.

Compressors are of the "Udec" high speed, totally enclosed, vertical type designed for operation on dry compression, and are rated at 60 to 65 hp. All machines are interchangeable. From the compressors the refrigerant gas is first routed through an oil separator coupled to a rectifier, permitting easy removal of oil separated from the refrigerant.

## CONDENSING EQUIPMENT

Condensing equipment consists of horizontal, single shell, shell-and-tube condensers, each of which is entirely independent and provided with its own gas, liquid, and water connections, fitted with isolating stop valves. Two centrifugal pumps in each engine room maintain water circulation at 250 to 300 gallons per minute.

Air is cooled by four batteries of coolers of identical size and design interconnected so that all four can be operated from one engine room if desired. Each cooler is located in an individual cooler room fitted with insulated doors. Coolers are of the wet surface type employing a top forced-feed circulation system. Centrifugal liquid ammonia pumps located below the low pressure accumulators circulate the liquid refrigerant. There are two accumulators, one for each pair of batteries, which are located in special rooms between the engine and air cooler rooms.

## COMPLETELY INSULATED

Corkboard insulation was used throughout. It is fastened to the walls in the usual fashion and protected and locked into position by concrete posts which also serve as Dunnage. All floors and ceilings are insulated, the floors being finished in granolithic with damp-proof finish, and walls and ceilings finished with plasterer's cement.

There is a complete arrangement of internal insulated doors to permit access to any chamber from both sides. Air ducts are of aero dynamic design, allowing for constant equalized pressure throughout the cold storage rooms and avoiding dead spots. Main temperature control for air distribution is from special lofts with access to the cooler.

A canopy extends over the loading dock, giving protection against the weather, as well as facilities for night lighting. Loading platforms are connected to the ground floor cold rooms through large air locks.

## ALLIES...

• Closely allied to you and with an understanding interest in serving you is your N.R.S.J.A. jobber.

He recognizes his obligation in seeing that you are served satisfactorily. His affiliation with N.R.S.J.A. is your assurance that he is employing every precaution to protect your interests.

Consider the N.R.S.J.A. jobber your partner-his place of business your stock room.

"He profits most who serves best"

## NAT'L REFRIGERATION SUPPLY JOBBERS ASS'N



Cafeteria Coolers

Filtrine Mfg. Co., Brooklyn

For Information on Motors  
FOR ALL TYPES OF  
Air Conditioning and  
Refrigeration Equipment  
WRITE TO

Wadner Electric Corporation  
6441 PLYMOUTH AVE.  
ST. LOUIS, MO.

## FALL SEMESTER REVIEW

• Why SULPHUR DIOXIDE is the best refrigerant yet developed for home use, and for many small-tonnage commercial machines . . .

1—Easy to detect the most minute leaks quickly and at virtually no cost. 2—Acts as its own warning agent. 3—Non-explosive and non-inflammable. 4—Absolutely stable. 5—Lends itself to perfect lubrication. 6—Operates with low head pressures. 7—Does not corrode when dry (Ansul gases are guaranteed dry). 8—No ice crystals will form. 9—Equal to all others for power consumption, efficiency, ease of design, servicing. 10—Low-priced and economical. 11—Has a record of years of superior service. 12—Sulphur Dioxide is universally available and plentiful.

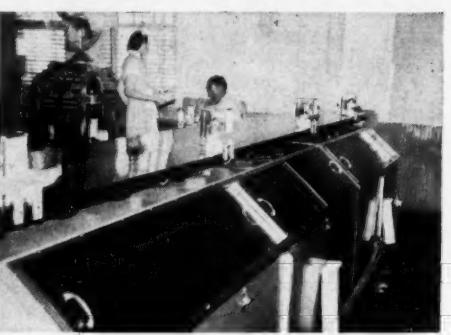
## ANSUL SULPHUR DIOXIDE

Every cylinder individually analyzed to be clean, pure, dry  
ANSUL CHEMICAL COMPANY, MARINETTE, WIS.  
Manufacturers of Methyl Chloride... Agents for Kinetic's "Froon-12"

LET THE ANSUL JOBBER NEAR YOU SERVE YOU BETTER



## 16 Beverage Coolers Quench Thirst at Army Camp



(Left) These Tyler beverage coolers are installed in the Seventh Coast Guard Artillery restaurant at Camp Robinson. (Right) Two model N1030 dry coolers installed in the Service Club.



(Left) Miss King is hostess at the Service Club, and Bob Hall is Chief Steward of the Post Exchange. (Right) Another N1030 cooler serves the Seventh Corps Area Service Command.



## Boston Engineers Plan Varied Program For Their '42 Season

BOSTON—An inspection trip through a market, a picnic, and plenty of technical talks and discussions are on the docket for the Boston section of the American Society of Refrigerating Engineers in its monthly meetings from January through May, 1942.

First meeting of the new year will be held under the direction of Prof. B. E. Proctor, department of biology and public health, Massachusetts Institute of Technology, and will feature a movie on "Oil De-Waxing" presented by one of the major oil companies, a talk on "Refrigeration In the Manufacture of Latex Foam Seat Cushions and Mattresses" by a representative of Firestone Rubber & Latex Corp., and a discussion of plastics by C. V. Bangle of Monsanto Chemical Co.

## TALK ON LABORATORY

At the Feb. 20 meeting, F. T. Harding will talk on the installation at the Harvard Fatigue Laboratory where materials and equipment are tested under low temperatures and pressures, and Earl Carrier of Carrier Corp.'s Boston office will tell of his experiences in connection with the air conditioning of diamond mines in South Africa. R. E. Borden, Harding S. Gross, will be in charge of this meeting.

The inspection trip through the Quincy Market will take place in the afternoon of March 20, and will be followed by dinner at the Boston Yacht Club. This meeting will be led by H. L. Burton and R. E. Sherbrooke, Quincy Market, Cold Storage & Warehouse Co. by whom the trip was arranged.

## TO MEET AT COLLEGE

The April 17 meeting will be held at Massachusetts Agricultural College at Amherst. Speakers will present papers on the use of refrigeration for farm products. In charge will be Prof. W. R. Cole, extension specialist in horticultural manufacturing; Prof. Gunness, department of engineering; and Dr. A. W. Ewell of Worcester.

Closing the season will be the picnic and outing on May 15. Directing plans for this meeting will be Mr. Borden, E. H. Everett of Frosted

Food Sales Corp., Prof. Proctor, Dr. Ewell, Mr. Burton, Mr. Sherbrooke, Prof. Gunness, and Prof. Carl Svensson of M.I.T.

Talks on priorities, storage of blood plasma, effects of the defense program on refrigeration, ship ventilation and cooling, fast freezing of foods, and the evacuation from Dunkirk featured the October and November, 1941 meetings. No December meeting was scheduled because of interference with the society's national meeting.

## Dairy Keeps High Rating With Small Unit

FRANKFORT, Ky.—A small  $\frac{1}{4}$ -hp. refrigerating unit helps E. E. Rogers and his wife maintain a high rating for the dairy they operate on a prosperous farm near here. About 75 gallons of grade A raw milk are produced daily.

The  $\frac{1}{4}$ -hp. Frick unit is connected to 150 feet of  $\frac{1}{2}$ -inch copper tubing built into a coil and submerged in a 150-gallon brine tank. This tank is suspended in the rear of a 6 by 5 by 7-foot walk-in cooler, which holds 50 gallons of grade A raw milk are produced daily.

After leaving the coil the suction gas passes through a unit cooler mounted just inside the door of the walk-in.

The unit cooler aids in cooling the box and maintains good air circulation. Brine is circulated through the aerator, which cools the milk, by a small centrifugal pump.

Warren L. Bain, Jr., Frick distributor at Lexington, Ky., made the installation. He has equipped five other leading dairies in the same county.

## 25,000,000 Shell Cases Made By Bridgeport

BRIDGEPORT, Conn.—The 25-millionth artillery cartridge case turned out by the Bridgeport Brass Co. was awarded to the Naval Bureau of Ordnance at ceremonies marking the company's receipt of the Navy "E" for distinguished service in production. The award was presented to Edward Coulson, a foreman with a record of 41 years' service, as representative of 5,800 employees.

## Miller &amp; Seddon Named Mills Distributor

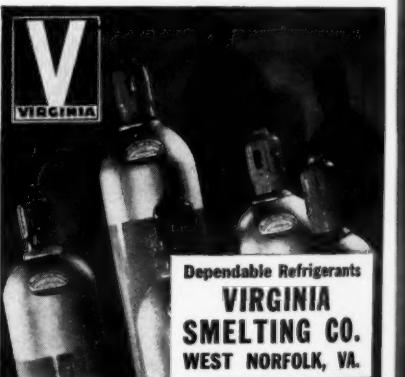
CAMBRIDGE, Mass.—Miller & Seddon, Inc., 2089 Massachusetts Ave. here, has been appointed distributor in the New England states for Mills commercial refrigeration products.

Richard Seddon, formerly New England district sales manager for Mills, is secretary of the distributorship.

## Little Rock Distributor Installs Coolers In Camp Robinson

CAMP ROBINSON, Ark.—Sixteen Tyler beverage coolers, 14 10-foot and two 6-foot units, have been installed in post exchanges of this army camp to provide cold beverages for the thousands of soldiers located here. The installation was made by 555, Inc., Tyler distributor in Little Rock.

Installations made by 555, Inc. include one cooler in Reception Center, two in the 35th Division Headquarters Exchange, two in the 43rd Engineers Regimental Exchange, and one in the 110th Observation Squadron Exchange here.



## CLASSIFIED ADVERTISING

PAYMENT in advance is required for advertising in this column.

### POSITIONS AVAILABLE

PARTNER WANTED, man with good sales record, experienced, invest \$10,000 to \$20,000. Take charge of sales organization, old established firm, manufacturing commercial refrigerators for all purposes, meats, delicatessen, beer coolers, florists, etc., also double duty cases. Large eastern city. Firm well rated, great opportunity for right man. State age, experience, etc. Box 1372, Air Conditioning & Refrigeration News.

SALESMAN WANTED—Headquarters in Chicago, to cover Illinois, Wisconsin, Indiana. Should have good working knowledge of commercial refrigeration. Line is nationally known and well advertised. Territory now very productive and requires fast moving, high-class man. No objection to man carrying non-competing refrigeration product. Suitable remuneration. All replies confidential. Box 1373, Air Conditioning & Refrigeration News.

WANTED—Refrigeration Serviceman with General knowledge of Heating, Electric Ranges, and home laundry equipment. Must be capable of installing and servicing Air-Conditioning and Commercial Equipment—ALTON REFRIGERATION COMPANY, 550 East Broadway, Alton, Illinois.

### FRANCHISES WANTED

THIS ADVERTISEMENT is directed to manufacturers of commercial refrigeration and air conditioning equipment having faith and confidence in the future of our country. This advertiser fully appreciates that many refrigeration manufacturers are booked to capacity and are not eager to commit themselves to substantial additional business. Nevertheless, to manufacturers who ARE thinking of the future, we say, "Think of the future NOW!"

To these manufacturers who are interested in SALES, we offer the facilities and services of a wide awake, hard hitting, financially responsible sales organization, equipped with a splendid engineering, installation and service department.

Showrooms located in central Manhattan, excellent warehouse accommodations, and above all, an organization headed by an individual who has been successfully associated with the refrigeration industry for the past twenty years. Prompt replies will be appreciated. Box 1369, Air Conditioning & Refrigeration News.

### BUSINESS OPPORTUNITIES

ESTABLISHED SALES and service business in prosperous central New York town of 14,000 with 100,000 trading area. Owner, moving due to other business obligations, offers excellent franchises; 40 active customers, chain store service contracts. A moneymaker all year around, averaging \$25,000 gross. Moderate investment will cover inventory, location, entire going operation. Box 1371, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

QUANTITY LATE model Westinghouse electric ranges: 20" & 38" Widths, 3 & 4 Chromalox Burners \$35.00 & \$40. 50 Crosley air-conditioners (self-contained) \$45.00. 40" frosted food cabinets (formerly \$250.00) \$45. Quantity Crosley Icy Ball units original cartons (refrigeration without moving parts) \$27.50. Prices & catalogs upon request—INTERSTATE—600 Broadway, New York, N. Y.

SURPLUS STOCK brand new Westinghouse Low-sides, complete with coils, valves, fans, manual controls, etc. 1 to 2 ton capacity. AC models \$37.50 each. DC models (easily converted to AC) \$24.50 each. Complete stock "as is" or rebuilt refrigerators, also Grunow's. Write for prices. ASSOCIATED REFRIGERATOR PLANT, 3028 W. Hunting Park Ave., Philadelphia, Pa.

## 'Lecture Course' For Servicemen Started

(Concluded from Page 1, Column 4) commercial refrigeration fundamentals, equipment, accessories, and applications. Sheridan Taylor of the Electrical Association planned the series, with the assistance of ASRE members, who will act as lecturers for the course.

All sessions, which are held in the association's auditorium, are scheduled for Tuesday evenings, beginning at 8 p.m. and ending by 10 p.m. Lectures take up one and a half hours, with the remaining half hour for discussion. Copies of all lectures are made available to those attending the series, for use as a textbook in the course.

Opening session of the course Nov. 10 was devoted to a discussion of heat and heat transfer. Other opening lectures cover such fundamentals as refrigerants and their characteristics, and the refrigeration cycle.

Section of the course dealing with equipment includes discussions of condensing units, cooling towers, evaporative condensers, evaporators-natural circulation, evaporators-forced circulation, evaporators-liquid cooling, refrigerant feed valves, control valves, and switches and thermostats.

The two lectures covering accessories include: tubing, fittings, filters, filters, etc.; and motors.

Under applications are considered walk-in coolers and rooms, display cases, milk and beverage cooling, ice cream and soda fountains, water cooling, air conditioning (two lectures), and miscellaneous applications.

Educational committee planning the course included L. A. Tucker, chairman; F. F. McIntyre, J. J. Schmidt, and G. G. Ward.

In addition to the lecture course for commercial refrigeration service men, Electric Association of Philadelphia at present also is conducting a series on oil burner servicing, and another course for electrical contractors. Two additional courses planned for the future will cover commercial electric cooking and general appliance servicing.

## Jobbers May Swap Stock Through Bulletin

CHICAGO—Jobbers who have surplus stock or stock they wish to trade for other articles especially needed may list their requirements and offers in the "Month's Work," bulletin published for members of the National Refrigeration Supply Jobbers Association, announces Fred B. Hovey, executive secretary of the association.

Such a listing formerly appeared in the bulletin, but was dropped due to lack of interest. Now, however, with the present scarcity of materials, it is thought jobbers may find this service helpful.

## How Army's Ice Boxes Are Being Converted To Mechanical Jobs

MANSFIELD, Ohio—Typical of the methods which are being used to "mechanize" the 12,500 ice boxes of 48 and 65-cu. ft. capacity in 39 Army camps throughout the country are those being followed by engineers and contractors for Westinghouse, which is directing the conversion of 3,449 of the reach-in units to mechanical refrigeration.

Working according to precise headquarters instructions, Westinghouse contractors place a 1/2-hp., 110/220 volt condensing unit alongside the box, put a special dome type cooler with a 1/100-hp. fan in the ice bunker, and install combination suction pressure and cabinet-air temperature control.

To minimize the time each individual unit is out of service, the installation procedure is worked out so that all possible preliminary preparations are made before the refrigerator is disturbed. Each step in the installation is carefully and completely outlined in the instructions, so that all jobs will be alike. Condensing units are enclosed in a wood frame structure covered with wire netting to protect them from damage.

Government specifications require "Freon-12" refrigerant, a compressor with a thermal capacity of not less than 3,160 B.t.u. per hour, a cooling unit rated at not less than 2,960 B.t.u. per hour, and a thermostat which will not vary more than 5° over a range of 20° to 50° F.

Set to maintain a temperature of 38° to 40° F., the units are guaranteed for one year.

## Ban Lead, Tin Foil For Package Use

WASHINGTON, D. C.—Lead and tin foil will disappear from cigarette packages, chewing gum, candy, and a number of other package uses after March 15, 1942, Donald M. Nelson, Director of Priorities, announced Monday.

Limitation Order L-25, which he issued, provides that after March 15 no tin, lead, or composition foil containing them shall be used in the manufacture of any decorative article or material or for the packaging of tobacco products, chewing gum, all beverages, confections, ribbons for typewriters and other business machines, friction tape and photographic film.

Basis for the order is the fact that lead going into foil manufacture has increased from approximately 2,000 tons a month at the beginning of 1941 to 5,500 tons at present, with the demand increasing monthly. Users of foil have swung rapidly into lead as aluminum stocks declined and they were unable to get more for that purpose. Tin savings under the order are estimated at 250 tons a month.

## 'For the Duration'—

## Minneapolis Relaxes Code Restrictions

### To Permit 'Changeovers' In Systems

MINNEAPOLIS—Regulations to be followed where it is necessary, because of a shortage of "Freon" refrigerant, to change-over present installations of refrigerating systems using "Freon" to some other refrigerant, have been filed with the City Clerk's office by the Minneapolis Fire Prevention Bureau, in accordance with provisions of the ordinance affecting refrigeration alterations and repairs during the national emergency, passed Sept. 12 by the City Council.

"The present ordinance to regulate the use of flammable and dangerous liquids as a refrigerant shall be complied with in every way possible during the present emergency," the regulations declare.

"All systems now using 'Freon' as a refrigerant which are changed over to use another refrigerant governed by the present ordinance shall be changed back to 'Freon' systems, or shall be made to comply with the present ordinance regulating the use of flammable and dangerous liquids as a refrigerant, at the conclusion of the present national emergency, or sooner if the necessity therefore no longer exists," it says further.

### REGULATIONS TO FOLLOW

"Where it is necessary, due to the inability to obtain 'Freon' to change the present 'Freon' installations to systems using other refrigerants, the following regulations shall be complied with: All refrigerant piping, tubing, and fittings shall be of a material suitable for the refrigerant employed. Shut-off valves shall be installed on liquid and suction lines at the generator. If pipe lines exceed 50 feet in length, additional shut-off valves shall be installed at evaporators. All valves and piping shall be adequately protected against mechanical injury, and shall be rigidly secured in place. The present location of the generator need not be changed if it is found impossible to comply with the requirements of the present ordinance as to location of generator.

"It shall be necessary to secure a

permit from the Fire Prevention Bureau before any system containing 'Freon' can be changed over to a system using any other refrigerant. In all present 'Freon' systems, where a change-over is made to use any other refrigerant, a card shall be posted at the generator setting forth the date change-over was made, the type of refrigerant used, and the amount of refrigerant; the number of the permit allowing change over shall also be on the card."

## Rema, OPM Men Talk At Annual Meeting Of SE Jobbers

ATLANTA—G. E. Graff, sales manager of Ranco, Inc., George Allen of Mueller Brass Co., and Mr. Reeves of the Atlanta office of OPM were speakers at the open meeting held by the Southeastern Refrigeration Supply Jobbers Association Nov. 7 as part of its annual convention program at the Ansley hotel in Atlanta.

All but one member of the association were present at the meeting. Also present were two visiting jobbers—Mrs. Murphy of Berner-Please Co., Miami, Fla.; and Mr. Booth of Refrigeration Supply Co., Richmond, Va.

Officers of the association, all re-elected for the coming year, are: president, R. M. Graves, Bowen Refrigeration Supplies, Inc., Atlanta; secretary-treasurer, Mrs. Hazel Dickson, United Refrigerator Supply Co., Memphis, Tenn.

BUY  
**ACME**  
PIPE COILS  
JACKSON ACME INDUSTRIES MICH.

## STREAMLINE PRODUCTS

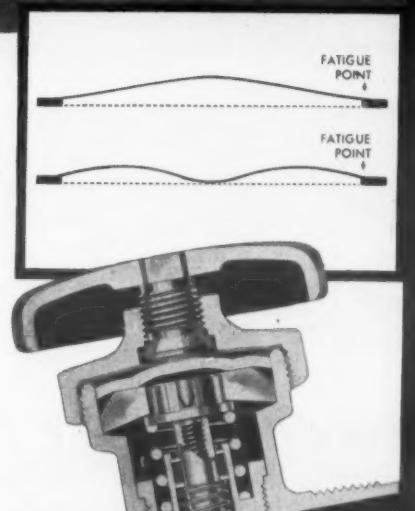
### Longer Diaphragm Life

★ SMALL MOVEMENT OF DIAPHRAGM ★ MUCH LESS METAL FATIGUE  
★ DIAPHRAGM AREA INCREASED 20% ★ NEVER DEFLECTED BEYOND NORMAL CENTER

● In the new Tripl-Sealed Line Valve the life of the diaphragms is greatly prolonged, thus immeasurably adding to the life of the valve itself in service.

In conventional diaphragm operation the diaphragm operates through and beyond its center point, producing what is generally known as "oil can" action. This continual snapping when opening and closing the valve fatigues the metal at the edges where it is secured to the body, and in a comparatively short time results in service failure of the valve. The diaphragm of the new valve has approximately 20% increased surface area over other types of diaphragms in similar sized valves, but most important of all IT IS NEVER DEFLECTED PAST ITS NORMAL CENTER WHEN OPENING OR CLOSING THE VALVE.

A single turn only is all that is necessary to open or close.



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**BRASS CO.**  
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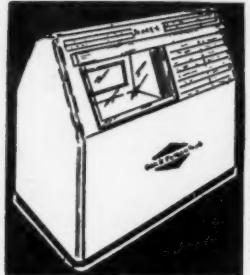
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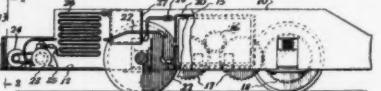
**PATENTS**

Weeks of Oct. 28, Nov. 1

2,260,360. **MINE LOCOMOTIVE.** Robert L. Barry, Downers Grove, Ill., assignor to Goodman Mfg. Co., Chicago, Ill., a corporation of Illinois. Application July 8, 1940, Serial No. 344,406. 2 Claims. (Cl. 105—59.)

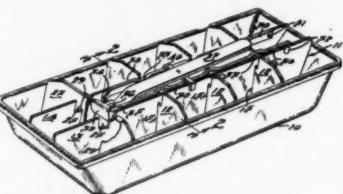
1. In an electric motor and in combination with a mine locomotive having a frame, a casing for said motor and

means for increasing the continuous rating of said motor without increasing the size thereof comprising means for absorbing the heat generated by the losses of said motor by a refrigerant and transferring it to the frame of said locomotive, including a duct extending along the outside of said motor casing and serving



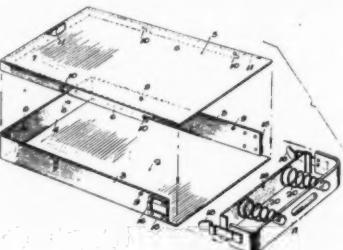
as an evaporator or expansion chamber, a compressor for circulating a refrigerant through said duct and condenser coils mounted on and having engagement with said frame to transfer the heat in said refrigerant to said frame.

2,260,363. **AUTOMATIC ICE TRAY.** Clifford E. Carney, Detroit, Mich. Application June 17, 1940, Serial No. 340,905. 15 Claims. (Cl. 62—108.5.)



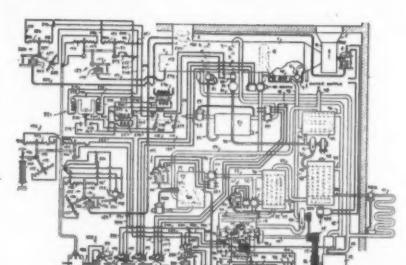
1. An ice tray and grid structure which comprises an ice tray, a grid in said tray comprising a pair of angularly inclined longitudinal members and a plurality of substantially upright transverse members, said grid members being mounted with respect to each other so that said longitudinal members are movable in a lateral direction relative to the tray and one of said transverse members is movable in a longitudinal direction relative to the tray while the remainder of said transverse members are relatively immovable, actuating members associated with said longitudinal members for moving said movable grid members, and a lever carried by said longitudinal members for operating said actuating members to move said longitudinal members, said lever having connections effective to move said transverse member.

2,260,450. **METHOD OF FREEZING FOOD PRODUCTS.** Joseph E. Guinane, White Plains, N. Y., assignor to General Foods Corp., New York, N. Y., a corporation of Delaware. Application April 24, 1940, Serial No. 331,458. 10 Claims. (Cl. 62—173.)



1. The method of packaging and quick freezing a flowable food product in a relatively thin collapsible rectangular container which comprises confining said container sufficiently to maintain its shape and prevent collapse, filling said confined container with said product, closing said container tightly around the confined flowable product to eliminate air from the container and sealing the confined container on all sides within refrigerated rigid heat-conductive walls to quick freeze said product while maintaining at least one side under yielding pressure, and then removing said walls, whereby a tightly wrapped quick-frozen unit of rectangular shape is obtained.

2,260,477. **AIR CONDITIONING SYSTEM.** Alwin B. Newton, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Sept. 24, 1938, Serial No. 231,571. 26 Claims. (Cl. 257—3.)



1. In an air conditioning system, in combination, cooling and dehumidifying means for cooling and dehumidifying the air in a space being conditioned including variable capacity compressor means, means influenced by the temperature and humidity of said space for placing said

cooling and dehumidifying means in operation when the effective temperature within the space becomes excessive, means influenced by the relative humidity in said space for controlling the capacity of said compressor means when said cooling and dehumidifying means is in operation, and means for placing said cooling and dehumidifying means into operation when the space relative humidity becomes excessive.

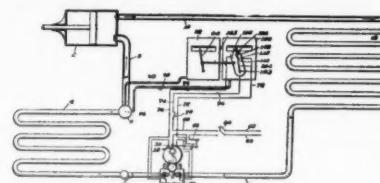
3. In an air conditioning system, in combination, cooling and dehumidifying means for cooling and dehumidifying the air in a space to be conditioned, a re-heater for reheating the air, space temperature and humidity responsive means for placing said cooling and dehumidifying means into operation when space temperature or relative humidity becomes excessive, means influenced by relative humidity for controlling the action of said cooling and dehumidifying means when in operation, thermostatic means for controlling said re-heater, and means influenced by outside temperature for adjusting said temperature and humidity responsive means and said thermostatic means in accordance with variations in outside temperature.

2,260,608. **METHOD OF DEHYDRATING AIR CONDITIONING UNITS.** Elbert M. Cormack, Mount Healthy, Ohio, assignor to The Crosley Corp., Cincinnati, Ohio, a corporation of Ohio. Application March 14, 1940, Serial No. 324,009. 10 Claims. (Cl. 62—115.)



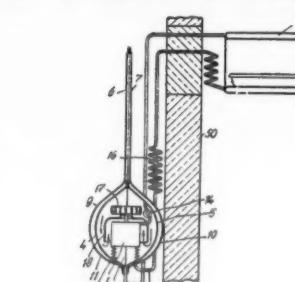
3. The method of dehydrating a refrigerating system containing a condensable gas comprising loading a desiccant into a body, sealing the desiccant therewith, incorporating said body in the system, sealing said system and thereafter rupturing said body.

2,260,682. **AUTOMATIC EXPANSION VALVE.** Hector Harris Robson, Scarsdale, N. Y., assignor to United Fruit Co., Boston, Mass., a corporation of New Jersey. Application Nov. 24, 1939, Serial No. 305,812. 10 Claims. (Cl. 62—5.)



1. A refrigerating system adapted to operate at a substantially constant superheat throughout a range of temperatures in the system, comprising a compressor, condenser and evaporator connected in circuit, an expansion valve admitting refrigerant to the evaporator, and means for operating the valve to maintain said superheat, said means comprising an element moved by changes in pressure in the system, a second element moved by changes in temperature in the system and independently of the movement of the first element, and means responsive to a predetermined relative positioning of said elements to move the valve toward its open position and responsive to a second predetermined relative positioning of said elements to move the valve toward its closed position.

2,260,807. **REFRIGERATING APPARATUS OF THE COMPRESSION TYPE.** Rudolf Hintze, Berlin-Charlottenburg, and Peter Pfaff, Berlin-Siemensstadt, Germany, assignors to Patentverwertungs-Gesellschaft mit beschränkter Haftung "Hermes," Berlin, Germany, a corporation of Germany. Application Aug. 9, 1939, Serial No. 289,552. In Germany Aug. 11, 1938. 13 Claims. (Cl. 62—115.)

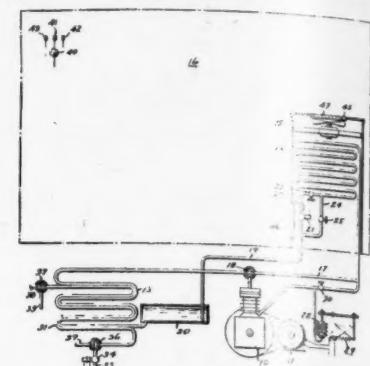


1. In a refrigerating apparatus having a motor-compressor set sealed in a housing and a condenser structure comprising a pair of metal sheets sealed together in face-to-face relationship, said metal sheet structure having an upper straight portion and a lower bulged portion and forming a refrigerant-containing conduit system extending over said straight and said bulged portion, said bulged portion being associated with said housing to form a cooling jacket for transferring waste heat from said set through refrigerant in said conduit system to the outer surface of said condenser structure.

2,260,825. **REFRIGERATING APPARATUS.** Howard E. Blood, Detroit, Mich., assignor to Borg-Warner Corp., Chicago, Ill., a corporation of Illinois. Application June 3, 1939, Serial No. 277,207. 3 Claims. (Cl. 62—116.)

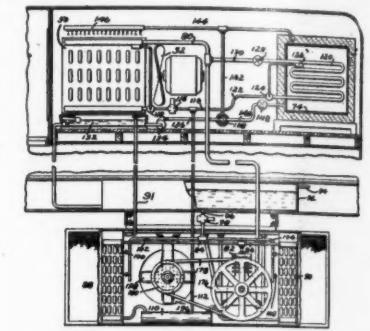
1. Refrigerating apparatus comprising a heat insulated compartment, a refrigerating system including a pair of evaporators adapted to absorb heat at different temperature levels, the evaporator operating at the lower temperature being arranged in the upper part of said compartment and the other evaporator being arranged at an elevation below that of said lower temperature evaporator, means for supplying liquid refrigerant medium to said lower temperature evaporator, said medium being made up by placing together refrigerants having different volatility and retaining said different volatility after being placed together, a connection between said evaporators for supplying liquid refrigerant from said lower temperature evaporator to the other of said evaporators.

2,260,887. **AIR CONDITIONER.** Don E. Dasher, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Oct. 28, 1938, Serial No. 108,025. 2 Claims. (Cl. 257—3.)



1. In a combination adapted for conditioning air for an enclosure, apparatus for conditioning air for said enclosure comprising a compressor and a plurality of heat exchange units connected in fluid flow relationship, means responsive to the psychrometric condition of the air outside said enclosure for rendering said compressor inoperative, and means for circulating a heating medium in thermal exchange relationship with one of said units while said compressor is inoperative.

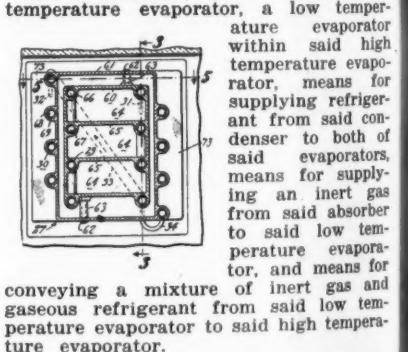
2,260,900. **AIR CONDITIONING.** Charles F. Henney, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Dec. 30, 1937, Serial No. 182,535. 6 Claims. (Cl. 62—6.)



1. An air conditioning system including a first and a second cooling means, means for circulating air in heat exchange relation with said first cooling means, a liquid container in heat exchange relation with said second cooling means, means for circulating liquid from said liquid container into heat exchange relation with said circulating air when said first cooling means is not effective, and means for by-passing said liquid container and circulating the liquid into heat exchange relation with the first cooling means and the circulating air when the first cooling means is effective.

2,260,938. **REFRIGERATION.** William R. Hainsworth, Larchmont, N. Y., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Oct. 6, 1938, Serial No. 238,163. 7 Claims. (Cl. 62—119.5.)

1. In an absorption refrigerating apparatus, a condenser, an absorber, a high temperature evaporator, a low temperature evaporator within said high temperature evaporator, means for supplying refrigerant from said condenser to both of said evaporators, means for supplying an inert gas from said absorber to said low temperature evaporator, and means for evacuating said absorber.



conveying a mixture of inert gas and gaseous refrigerant from said low temperature evaporator to said high temperature evaporator.

(Concluded on Page 15, Column 1)

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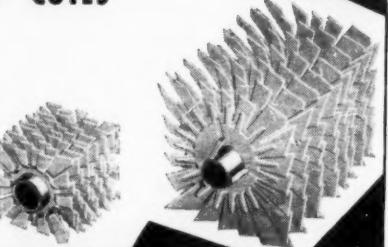
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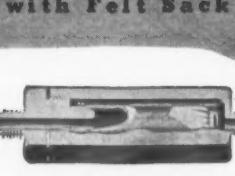
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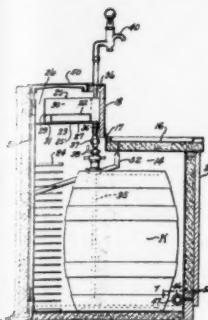
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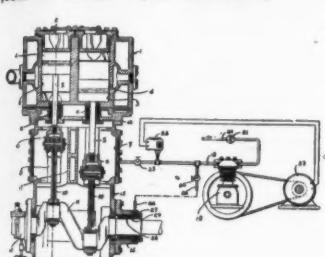
## Patents (Cont.)

(Concluded from Page 14, Column 5)  
 2,260,558. **BEER COOLER.** Albert E. Tomson, Milwaukee, Wis., assignor to Lamme Store Fixture Co., Milwaukee, Wis., a corporation of Wisconsin. Application May 11, 1938, Serial No. 209,193. 8 Claims. (Cl. 220-15.)



1. A cooling and dispensing apparatus for carbonated beverages comprising a cabinet having an ice chamber and a compartment, a receptacle containing the beverages to be dispensed disposed in the compartment and provided with a tap fitting, said cabinet having a cooling chamber overlying the compartment and in open communication therewith, a cooling pan disposed in the cooling compartment and adapted to contain ice, the top of the cabinet overlying the pan and the pan having aligned openings, a tap rod extending through the aligned openings and having its lower portion inserted in the receptacle and provided exteriorly of the cabinet and at its upper end with a faucet, and means associated with the opening of the pan for causing ice water to trickle down around the tap rod.

2,261,941. **COMPRESSOR.** Harry A. Feldbau, Short Hills, N. J., assignor to Worthington Pump & Machinery Corp., Harrison, N. J., a corporation of Delaware. Application March 15, 1939, Serial No. 261,941. 1 Claim. (Cl. 230-203.)



In a refrigerant compressor, the combination with a compressor cylinder, a piston and an operating shaft for said piston, of a sealed crank case in fluid tight connection with the cylinder for receiving refrigerant leakage therefrom, said shaft extending out of said crank case, a packing about said shaft, an evacuating compressor operable independently of the refrigerant compressor and having its suction connected to said packing structure to withdraw refrigerant leakage from the packing and reduce the pressure within said packing structure about the shaft to approximately atmospheric pressure.

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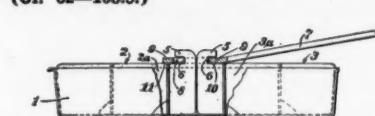
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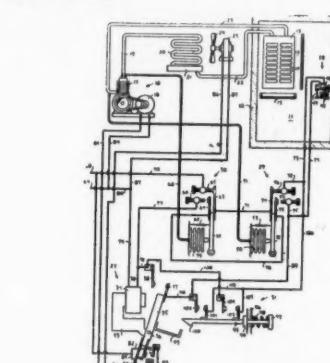
pheric pressure for preventing leakage of refrigerant through the packing structure, means connecting the suction of said evacuating compressor to the interior of said crank case for withdrawing gaseous refrigerant from the crank case, and pressure actuated means actuated by pressure from within said crankcase for controlling operation of said evacuating compressor independently of operation of the refrigerant compressor.

2,261,522. **ICE TRAY ORGANIZATION FOR REFRIGERATORS.** James H. Miner, Meridian, Miss. Application March 31, 1938, Serial No. 199,293. 8 Claims. (Cl. 62-108.5.)



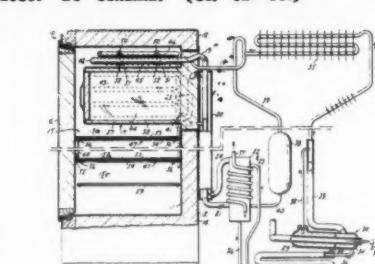
1. An ice tray organization for refrigerators comprising a tray proper, a grid divided into a pair of sections, which sections are arranged each to extend from one end of the tray towards and substantially in meeting relation with the other grid section extending from the other end of the tray, and a lever for operating the grid sections, the meeting ends of the grid sections being arranged each to provide means for engagement by said lever to be lifted thereby and also to provide a fulcrum for the lever when the latter is used to raise the other section.

2,261,593. **QUICK FREEZE CONTROL.** Charles B. Spangenberg, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Oct. 17, 1938, Serial No. 235,325. 12 Claims. (Cl. 62-4.)



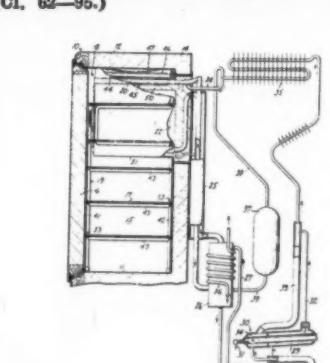
1. In a refrigeration system including a refrigerating apparatus having a compressor and evaporator means for cooling a space and for freezing a substance, the combination with said apparatus of, control means responsive to the temperature of the space for normally controlling the compressor to maintain the space temperature within desired limits, control means responsive to the pressure on the low pressure side of the refrigerating apparatus for always stopping operation of the compressor when the pressure decreases to a predetermined low value, and means for operating the compressor independently of the temperature responsive control means until the compressor is stopped by the pressure responsive control means for quickly freezing the substance and thereafter returning the control of the compressor to the temperature responsive control means.

2,261,681. **REFRIGERATION.** Hugo M. Unistrand, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application June 17, 1937, Serial No. 148,681. Renewed Dec. 8, 1939. 14 Claims. (Cl. 62-95.)



1. In a refrigerator having a thermally insulated storage compartment and structure therein to support food products and the like, an absorption type refrigeration system having first and second cooling elements in which refrigerant fluid evaporates in the presence of an auxiliary agent, said first element being thermally segregated from said compartment and having a chamber for freezing ice and the like, said refrigerant fluid evaporating into auxiliary agent at a low temperature in said first cooling element and at a higher temperature in said second cooling element, and a system for heat transfer fluid in heat conductive relation with said second cooling element and a heat abstracting portion including said structure so as to minimize the amount of usable storage space occupied by said system in said compartment.

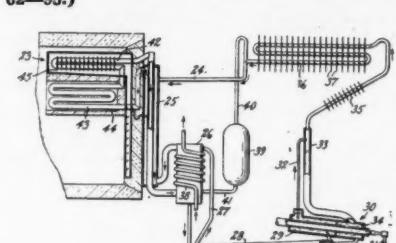
2,261,682. **REFRIGERATION.** William T. Hedlund, New Rochelle, N. Y., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Aug. 10, 1937, Serial No. 158,277. 18 Claims. (Cl. 62-95.)



1. In a refrigerator having a thermally insulated storage compartment, an absorption type refrigeration system including

an evaporator in which refrigerant fluid and auxiliary agent flow in the presence of each other, said evaporator having a first section thermally segregated from said compartment and a second section, said refrigerant fluid evaporating into auxiliary agent at a low temperature in said first section and at a higher temperature in said second section, and a system for a heat transfer fluid and comprising a heat rejecting portion in thermal exchange relation with said second section and a heat abstracting portion, one or more shelves external to said system, said heat abstracting portion including conductors connected and arranged to support said shelf or shelves in said compartment.

2,261,683. **REFRIGERATION.** Walter A. Kuenzli, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Aug. 12, 1937, Serial No. 158,646. 16 Claims. (Cl. 62-95.)



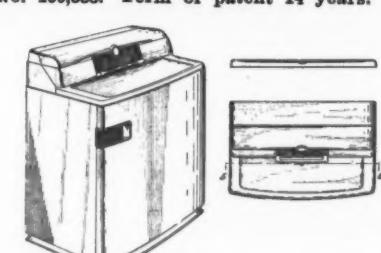
1. A refrigerator comprising a cabinet having thermally insulated walls defining a storage space having an opening, a closure for the opening normally affording access into said space, one of said walls being removable, refrigeration apparatus including a cooling element, a secondary heat transfer system containing a volatile fluid and having a condensation portion and an evaporation portion, said condensation portion being in thermal exchange relation with said cooling element and said evaporation portion including a part of said removable wall.

2,261,882. **REFRIGERATOR CABINET CONSTRUCTION.** Wallace Ray Howard, Connersville, Ind., assignor, by mesne assignments, to Reconstruction Finance Corp., Chicago, Ill., a corporation of the United States. Application March 17, 1938, Serial No. 196,569. 4 Claims. (Cl. 220-15.)

1. In a refrigerator cabinet having an inner liner defining a food compartment with a door opening and an outer shell spaced and insulated from said liner, said liner and shell having spaced marginal edge portions terminating in flanges projecting inwardly toward one another about the door, a plurality of liner supporting and spacer members formed of insulating material positioned transversely between the said marginal edge portions inwardly of said flanges, hanger brackets for said members connected to the flanged edge of the shell, said brackets each being provided with an open recess and each of said members being formed with a necked portion detachably engaging in said recess, the inner end of each of said members abutting the marginal portions of the liner, means accessible from the interior of the food compartment for securing the inner end of each member to the liner, a breaker strip overlying the space between said flanges and hook-shaped members engaging the opposite edges of the breaker strip and said flanges for detachably connecting the breaker strip to the flanges.

## DESIGN

130,126. **DESIGN FOR A REFRIGERATOR CABINET.** Raymond Loewy, New York, N. Y., assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application May 10, 1941, Serial No. 100,888. Term of patent 14 years.



The ornamental design for a refrigerator cabinet, as shown.

## PATENTS

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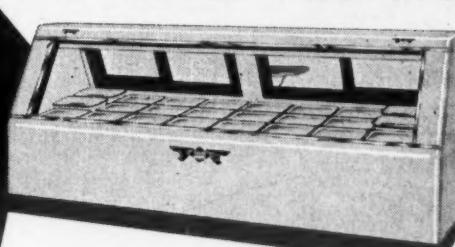
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11-26-41

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SAFER FOOD  
SAFER AMERICA

## Show Boat Trip and Dinner-Dance Top ASRE Entertainment Program

(Concluded from Page 1, Column 4) will not be neglected. Far from it, in fact. Topics of addresses and discussions along this line include: "Metals For Sub-Zero Temperatures"; "Recent Developments In Large Ammonia Absorption Systems"; "Allies of Refrigeration In Meat Preservation"; "Heat Transfer of Evaporating 'Freon' In Tubes"; and "Standard Methods of Rating and Testing Evaporative Condensers."

A visit to a Mississippi River show boat on Wednesday night, and the society's annual dinner-dance in the hotel's Continental Club on Thursday night top off the entertainment program schedule for convention guests. In addition, a bridge party and sightseeing trip have been arranged for the ladies.

Only activities scheduled for the opening day are advance registration, a joint meeting of the General Technical and Program Committees and a meeting of the Locker Plant Standards Committee, and a cocktail party.

General registration will start Wednesday morning, and will be followed by the convention's first regular session.

Friday, final day of the meeting, will be given over to inspection trips through local manufacturing plants.

### COMPLETE PROGRAM

Complete tentative program for the meeting follows:

#### TUESDAY, DEC. 2

3:00 p.m.—Advance registration, mezzanine foyer.  
4:00 p.m.—Joint meeting, General Technical and Program Committees, L. S. Morse, chairman. Locker Plant Standards Committee, O. G. Hankins, chairman.  
5:30 p.m.—Cocktail party.

#### WEDNESDAY, DEC. 3

9:00 a.m.—Registration.  
9:30 a.m. First Session—Crystal room; L. L. Lewis, president of A.S.R.E., chairman. Greetings from the section—A. T. Marlo, chairman of St. Louis section.  
"Metals for Sub-Zero Temperatures"—L. H. Carr, Edward Valve & Mfg. Co., E. Chicago, Ind.

Forum on Substitute Metals—Discussion by A. B. Schellenberg, K. M. Newcum, M. F. Tokach.

11:00 a.m. Second Session—W. R. Hainsworth, vice president of A.S.R.E., chairman. "Procedure In Government Business by the Refrigeration Industry," C. W. Shearman, OPM, Washington, D. C.

"Recent Developments in Large Ammonia Absorption Systems"—R. L. Jones and J. R. Chamberlain, York Ice Machinery Corp.

Presentation of Prize Papers Award for 1941.

12:30 p.m. Luncheon—Ivory Room; A. B. Schellenberg, chairman; speaker, L. L. Needler, Office of Agricultural Defense Relations, Washington, D. C.

Recognition of William S. Shipley and York plan.

3:00 p.m.—Inspection of Anheuser-Busch cabinet manufacturing plant and brewery, and other plants.

3:00 p.m.—Bridge party for ladies.

8:00 p.m.—Show Boat Trip.

#### THURSDAY, DEC. 4

9:30 a.m. Third Session—Crystal Room; C. R. Logan, vice president of A.S.R.E., chairman. "Allies of Refrigeration in Meat Preservation"—Prof. Arthur W. Ewell, Westinghouse Electric & Mfg. Co., East Springfield, Mass.

"Plastics as Substitute Materials"—G. C. Gress, regional sales manager, plastics division, Monsanto Chemical Co., Springfield, Mass.

Business Session—Action on new constitution, and induction of officers.

11:00 a.m. Fourth Session—Crystal room; L. L. Lewis, chairman. "Heat Transfer of Evaporating 'Freon' in Tubes"—Carlyle M. Ashley, research division, Carrier Corp.

"The Field of Membership for

the A.S.R.E."—Report of survey by membership committee, Dr. W. R. Hainsworth.

"Standard Methods of Rating and Testing Evaporative Condensers."

12:30 p.m. Discussion Luncheons—(Separate Group Meetings).

1. Standards—Discussion of Government specifications led by A. G. Loeffel.

2. Refrigerants—Discussion of substitutions led by B. H. Jennings.

3. Sections—Conference for delegates and section officers, Lee C. Leslie, chairman.

3:00 p.m.—Inspection of St. Louis manufacturing plants. Trips by arrangement.

4:30 p.m.—Council Meeting.

7:00 p.m.—Banquet and dance, Continental Club, Hotel Jefferson. Formal dress optional. Entertainment.

#### FRIDAY, DEC. 5

10:00 a.m.—Final inspection trips of St. Louis manufacturing plants, by arrangement:

Alco Valve Co.; Century Electric Co.; Curtis Refrigerating Machine Co.; Cyclotron; Hussmann-Ligonier Co.; Marlo Coil Co.; Nelson Co.; Pevely Dairy; St. Louis Dairy; Wagner Electric Corp.; White-Rodgers Co.

### ASRE Volunteers

#### Its Services To OPM

302 S. Geddes St.  
Syracuse, N. Y.  
Oct. 22, 1941

The Chairman  
Advisory Committee  
Air Conditioning &  
Refrigeration Section  
S.P.A.B.  
Washington, D. C.

Dear Sir:

In view of the serious shortages of metals resulting from the defense program, and the drastic handicaps which such shortages will work on the refrigeration facilities and needs of the nation, the Council of the American Society of Refrigerating Engineers has authorized me to offer the services and research facilities of the Society in:

1—Assisting the formulation of programs of standardization and simplification of refrigeration equipment, and

2—Devising satisfactory substitutes for materials subject to priorities.

The American Society of Refrigerating Engineers is an independent, non-commercial body of more than 1,700 members. Its membership embraces a reservoir of knowledge and scientific capacities which might well be tapped by the national Administration for use in this emergency; and such consulting services are offered by the Society as a patriotic contribution to the national welfare.

L. L. LEWIS,  
President

Office of Production Management  
Social Security Bldg.  
Washington, D. C.  
Refer to 3:29  
Oct. 29, 1941

Mr. L. L. Lewis, President  
302 S. Geddes St.  
Syracuse, N. Y.

Dear Mr. Lewis:

Thank you very much for the expression of your interest in the problems of the refrigeration industry, as outlined in your letter of Oct. 22, 1941.

The Refrigeration Unit of this branch is working on a comprehensive program for the Refrigeration and Air Conditioning Industries.

When this initial program is complete the questions of standardization and simplification as well as that of material substitutes will be taken up. There is no doubt but what the ASRE can be of great assistance to us in exploring these problems, and we will be more than happy to have the Societies facilities to draw on in solving them.

JESSE L. MAURY, Chief  
Electrical Products and  
Consumers' Durable Goods Branch  
Division of Civilian Supply

## New Orleans, Hartford Experimenting With City-Wide Servicing Plans

(Concluded from Page 1, Column 5) is left largely up to the individual dealer.

There is no standard list of service charges: the dealer can set his own figure. Idea is that if the dealer does inferior work or overcharges on his jobs, his customers will simply quit coming back—and he will stand or fall on his own doings.

Approved dealers are given a "Certified Electrical Appliance Repair Shop" sign to hang up in their places of business—and the power company has been pushing a rather extensive promotional campaign in New Orleans newspapers and over the radio to make the signs mean something to the public.

Teaser advertisements in local papers were used before the plan went into effect, followed by "selling" copy in both English and foreign language papers, enclosures in the utility's quarterly house organ, stickers on monthly service bills, and radio and movie-slide publicity once the plan was launched. Home service workers from the power company and contact men also helped to spread the story.

To help shift as much of this work as possible to dealers, the utility company moved its own servicing department into the basement, out of the "traffic zone." Such service jobs as were received by the power company were handled as usual, but the customer was advised that the next time any of his appli-

ances needed servicing, he might try one of the "certified" shops instead.

No appliance service training is called for under the program as it now exists, but there is a possibility that such training might be inaugurated if the need for it should arise.

The Hartford plan, proposed in October and now being revised in an attempt to satisfy some initial objections on the part of dealers, suggests the establishment of a central receiving point (in this case the Electric League office) where all customers' service calls would be received for assignment to a definite number of approved servicing agencies. These agencies would be required to meet definite qualifications before being approved.

Purpose of the plan is three-fold: to take better advantage of existing service facilities, to improve the efficiency and quality of service, and to reduce users' maintenance costs.

According to the plan, the service bureau would set up a call switchboard which would be operated 16 hours a day, with a special emergency hook-up for night and Sunday calls. When a call was received, the operator would fill out a work-order form calling for pertinent information concerning the appliance, its age, place of purchase, nature of trouble, etc.

The call would then be relayed to the authorized service agency located in closest proximity to the customer,

unless a definite preference were expressed by the caller. The agency would then get in touch with the customer, giving estimate of cost and arranging terms of payment. Experience in handling a volume of similar jobs might make it possible to arrive at an average cost for certain types of repairs.

To cover administrative costs, a handling charge would be assessed for each job—10 cents for those on which the charge was \$2 or less, and 15 cents for calls on which the charge was higher. A fixed charge for administrative expense also would be charged the bureau by the League.

Back of the plan is the aim of keeping the new-appliance market open, through proper servicing, during the period of curtailment of new equipment production.

Under the plan, it is suggested, it might be possible to set up monthly "service specials" on washers, refrigerators, ironers, ranges, vacuum cleaners, etc., featuring complete overhauls at special rates.

Based upon the assumption that appliance service, like appliance sales, belongs to the dealer, the Hartford service bureau plan looks to the establishment of a corps of specialized servicing organizations, which could furnish speedy, efficient service at minimum cost to the customer. Eventually, such organizations might absorb most of the service work now done by the utility's service department.

The plan emphasizes the fact that building up the dealer's service volume to a point of profit will help to smooth out what might otherwise be a pretty rocky road in the next couple of years.



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